



POLITECNICO
MILANO 1863

SCUOLA DI INGEGNERIA INDUSTRIALE
E DELL'INFORMAZIONE

P.E.A.S. PROJECT: UNVEAL THE "REAL COST" OF FASHION ON ENVIRONMENT THROUGH SMART TECHNOLOGY

TESI DI LAUREA MAGISTRALE IN
MANAGEMENT ENGINEERING
INGEGNERIA GESTIONALE

Authors: **Andrea Brancaleone, Alice Cervellin**

Student ID: 964032, 966521

Advisor: Alessandro Brun

Academic Year: 2021-2022

*Al tempo, all'energia e alla perseveranza
che ho impiegato in questi anni
per raggiungere questo traguardo.*

Andrea

*Alle mie insicurezze e debolezze,
che non mi hanno fermata dal
superare qualunque ostacolo.*

Alice

Contents

- Abstract 3**
- Abstract in italiano 4**
- 1. Introduction 5**
 - 1.1. The Needs of Future Society 5**
 - 1.1.1. Survey’s Results 5
 - 1.1.2. Reflection 8
 - 1.2. The Solution: PEAS Project 10**
 - 1.2.1. PEAS Tech’s Stakeholders 11
- 2. Peas Tech App Development 13**
 - 2.1. WEAR ME App 13**
 - 2.1.1. The Idea 13
 - 2.1.2. LCA Analysis 15
 - 2.2. APP Prototype Development 16**
 - 2.2.1. About Figma 16
 - 2.2.2. How to Access 19
 - 2.2.3. Homepage Section 21
 - 2.2.4. Wardrobe Section 23
 - 2.2.5. Rewards Section 26
 - 2.2.6. LCA Statistics Section 30
 - 2.2.7. Community Section 31
 - 2.2.8. Quiz & News Section 32
 - 2.2.9. NFC Tap Section 33
 - 2.2.10. Notifications 35
 - 2.3. Example of User’s Journey 36**
 - 2.4. Next steps 37**
- 3. Peas Tech Business Plan 38**
 - 3.1. Context Analysis 38**
 - 3.1.1. PESTE Analysis 38
 - 3.1.2. Case Studies 43
 - 3.1.3. Case Studies Analysis 49
 - 3.2. Peas Tech: Vision and Mission 50**
 - 3.3. The Idea 51**
 - 3.3.1. WEAR ME App: The App for the B2C 52
 - 3.3.2. WEAR ME’s Service: How It Works 52
 - 3.4. Governance & Organization 53**
 - 3.5. Go-To-Market Strategy 56**
 - 3.5.1. The Timeline 56
 - 3.5.2. Growth Strategy 56
 - 3.6. Products & Technology Behind PEAS Tech 63**
 - 3.6.1. The Patches 63
 - 3.6.2. PEAS Tech’s System 64
 - 3.6.3. WEAR ME App’s Platform System 64
 - 3.6.4. B2B System 66
 - 3.6.5. NFC Technology 67
 - 3.6.6. Back-End Technology of the PEAS Tech’s App 68

3.6.7.	Blockchain Technology	69
3.7.	Operations & Supply Chain Management	70
3.7.1.	New Product/Service Development	72
3.7.2.	Materials Production/Procurement.....	74
3.7.3.	Product Manufacturing	76
3.7.4.	Inventory management.....	79
3.7.5.	Logistics	80
3.8.	Financial Analysis	82
3.8.1.	Profit & Loss Statement 2023	82
3.8.2.	Profit & Loss Statement 2024	86
3.8.3.	Profit & Loss Statement 2025-2026	88
3.8.4.	Financial Analysis Conclusion.....	89
3.9.	Financial Needs and Investors	90
3.10.	Risk mitigation.....	92
3.10.1.	Risk Typologies.....	93
3.10.2.	Porter’s Five Forces Model.....	96
3.11.	Business Model Canvas.....	97
4.	<i>Peas Tech Marketing Strategy</i>	<i>101</i>
4.1.	Marketing Plan (B2B).....	101
4.2.	Digital, E-mail and Personal Marketing Campaign (B2B).....	102
4.2.1.	Content Idea	102
4.2.2.	B2B Cross-Channel Interactions	104
4.2.3.	Economic Analysis of the Campaign.....	105
4.2.4.	KPIs for Campaign B2B Objectives and Performances	107
4.3.	Marketing Plan (B2C).....	108
4.4.	Omnichannel Marketing Campaign (B2C).....	109
4.4.1.	Target Segment	110
4.4.2.	Customer Persona.....	111
4.4.3.	Uncovering Insights	113
4.4.4.	The Marketing Campaign Theme	113
4.4.5.	Media Selection.....	115
4.4.6.	Content Idea	117
4.4.7.	Editorial Planning.....	118
4.4.8.	B2C Cross-Channel Interactions.....	120
4.4.9.	Customer Journey Map.....	121
4.4.10.	Economic Analysis of the Omnichannel Campaign.....	122
4.4.11.	KPIs for Campaign B2C Objectives and Performances.....	125
4.5.	Second Marketing Campaign (B2C).....	130
4.6.	Expected Results of the 2023 Marketing Strategy	130
5.	<i>Conclusion And Future Developments</i>	<i>132</i>
	<i>Appendix.....</i>	<i>134</i>
	<i>Bibliography</i>	<i>140</i>
	<i>List of Figures</i>	<i>144</i>
	<i>List of Tables.....</i>	<i>146</i>
	<i>Acknowledgments</i>	<i>147</i>

Abstract

In a world where the fashion industry is evolving more and more towards the compulsive purchase of clothing and the neglect of its environmental impact, expanding into the Fast Fashion market against ethics and sustainability topics, it is necessary to find a solution that acts on the mentality of end consumers, to make them aware and educated to a more sustainable behaviour in the purchase and use of wearable products.

The final goal of this thesis is to plan a market strategy for the realization of the P.E.A.S project. Thanks to the LCA analysis that determines the environmental impact in the supply chain of a wearable product, and thanks to innovative technologies such as NFC Tag and Blockchain, that guarantee transparency and trustful sharing of such information, P.E.A.S. provides an app to educate end consumers on sustainable behaviour in the purchase and use of clothing, by monitoring their habits, proposing more sustainable practices and increasing awareness about what the "real cost" of fashion is and the environmental impact that everyone has.

The analysis carried out allowed the realization of an Alpha version of the app prototype which, thanks to its intuitive and engaging features through gamification, allows users to create a daily routine in its use. Subsequently, the analysis focused on the development of the company's business plan, by defining the context and market's needs, and then developing the go-to-market strategy and supply chain management. Finally, more detail was devoted to the development of the marketing strategy, by proposing two campaigns for the two markets of interest. The financial analysis verified the feasibility of the strategy implemented, thus leaving as a conclusion the implementation of this strategy by the company, whose potential seems to be high since the offer coincides with the new needs of the market. Further future strategic actions will be needed to be implemented to sustain the business and achieve the desired profitability.

Abstract in italiano

In un mondo dove l'industria della moda si sta evolvendo sempre di più verso l'acquisto compulsivo di capi di abbigliamento e la non curanza verso il relativo impatto ambientale, espandendosi nel mercato del Fast Fashion contro ogni tipo di etica e sostenibilità, è necessario trovare una soluzione che agisca sulla mentalità dei consumatori finali, per renderli consapevoli e educati a un comportamento più sostenibile nell'acquisto e utilizzo dei capi d'abbigliamento.

L'obiettivo finale di questa tesi è quello di pianificare una strategia di mercato per la realizzazione del progetto P.E.A.S. Grazie all'analisi LCA che determina l'impatto ambientale dell'intera supply chain di un capo di abbigliamento, e grazie a tecnologie innovative quali NFC Tag e Blockchain, che garantiscono trasparenza e condivisione sicura di tali informazioni, P.E.A.S. fornisce un'app per educare i consumatori finali ad un comportamento sostenibile nell'acquisto e utilizzo dei capi di abbigliamento, monitorando le loro abitudini, proponendo pratiche più sostenibili e aumentando la consapevolezza sul "costo reale" della moda e l'impatto ambientale che ognuno ha.

L'analisi effettuata ha permesso la realizzazione di una versione Alpha del prototipo dell'app che, grazie alle sue funzionalità intuitive e coinvolgenti tramite la gamification, permette di creare una routine giornaliera nel suo utilizzo. Successivamente, l'analisi si è concentrata sullo sviluppo del business plan aziendale, definendo il contesto e i bisogni del mercato, e sviluppando poi la go-to-market strategy gestendo anche la catena di approvvigionamento. Si è infine dedicato maggior dettaglio di sviluppo per la strategia di marketing proponendo due campagne per i due mercati d'interesse. L'analisi finanziaria ha verificato la fattibilità della strategia attuata, lasciando quindi come conclusione la messa in atto di tale strategia da parte dell'azienda, le cui potenzialità sembrano essere elevate poiché l'offerta coincide con i nuovi bisogni del mercato. Saranno necessarie ulteriori future azioni strategiche da implementare per sostenere il business e raggiungere la profittabilità desiderata.

1. Introduction

The fashion sector is rapidly changing as a result of the transformation of customers' needs and tastes, it is becoming a landscape characterized by a high degree of innovation due to the need of meet their new expectations and desires. This chapter starts by defining how the new tastes and expectations of these customers are emerging and understanding their perception of the world of fashion and clothing.

1.1. The Needs of Future Society

Nowadays the sustainability topic is spreading in the society, creating more awareness and attention to the problem that the world must face before it's too late. Environmental pollution and ecological damage due to humans' actions are dramatically worsening, and people want to change this situation and become more sustainable. This willingness is concentrated especially among younger generations, who are living a life where the dramatic consequences of pollution and global warming are exposed and increasing over time. But is it true? Do people really want to bring this change in the society's mentality and actions, or is the difference between words and deeds farther and farther away? Why do we hear so much about attention to sustainability, but no one in his own small way changes his/her habits to improve the situation?

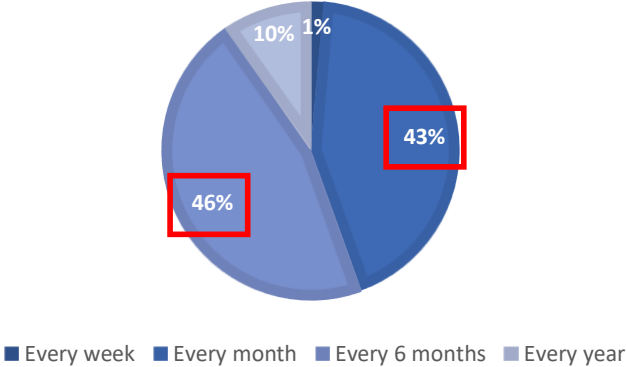
To answer these questions, a research survey was performed on 144 subjects, young men, and women between the ages of 18 and 35, who were asked about sustainability topic in relation to the fashion industry, to analyse their thoughts compared to their behaviour and habits, and to ultimately understand what their hidden needs are to put in practice the change and become more sustainable.

1.1.1. Survey's Results

The analysis started with the understanding of the knowledge level of users in relation to sustainability and the fashion industry. On a rating from zero (low) to four (high), 92% of respondents have a medium-high interest in sustainability, and 65,3% of them knows what fast fashion is. 83,3% of respondents are aware that the fashion industry generates high environmental pollution, and 78,3% of them would like to be more informed about these topics. An interesting result is that, even if not 100% of respondents are interested or would like to be more informed about these topics, 97,9%

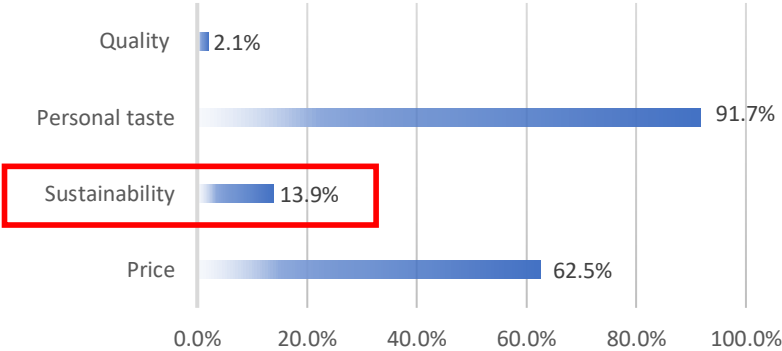
of them thinks that sustainability in the fashion industry is an important topic especially nowadays. This means that even people who are not passionate about this field are aware of the strong impact that the fashion industry has on the environment and on the gravity of the situation over time. However, not all people who are aware and care about this topic perform daily activities in respect of sustainability and the environment. Thus, it is important to understand users' behaviour when buying and using clothes. The survey brought interesting results: young generations are very attached to fashion trends and buy new clothes even when they don't need them, as shown in *Figure 1* where 43% of respondents go shopping every month, and 46% of them go shopping every 6 months.

Figure 1: Survey question "how often do you buy new clothes?"



But how do users go shopping? Which type of clothes do they buy, and which criteria do they use to select the right brand and products? The survey's results show that 76% of respondents, despite their interest and awareness in sustainability, buy from brands of the fast fashion industry. Among the different possible choice criteria, in fact, sustainability is considered by only 14% of respondents, overwhelmed by price (62,5%) and personal taste (91,7%) as shown in *Figure 2*.

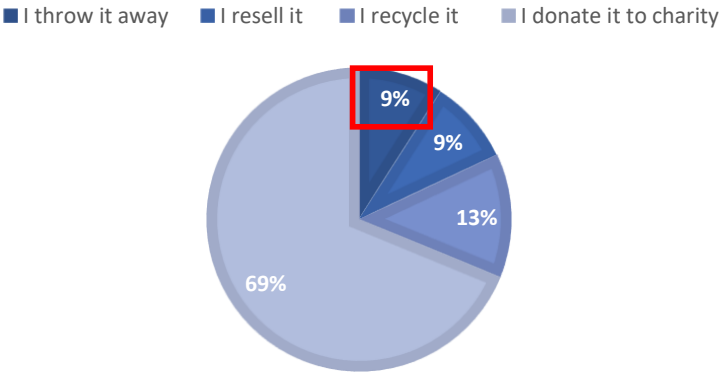
Figure 2: Survey question "Which criteria do you use to choose from which brand to buy clothes?"



Indeed, it is well known that the fast fashion industry has the most competitive prices, and it allows people to buy a lot of clothes to renew their wardrobe and keep the pace of fashion trends. However, 68% of respondents declared that knowing the true sustainability level of the clothes they are buying would influence their choices, and 61% of them would be willing to pay a higher price for a more sustainable garment. As a result, price by itself is not the main problem causing fast fashion success. Indeed, another interesting result is that 25% of respondents use apps or websites to select the clothes to buy, like for example Zalando, ASOS, AboutYou, but none of these online stores pays enough attention to sustainability. Consequently, it is difficult for people to have sustainability as the main choice criteria if fashion brands don't show their commitment to it and don't allow users to choose considering the sustainability level of clothes.

Regarding clothes' usage, 79% of respondents considers a wearable product as disposable as soon as it is ruined or broken. This is a positive result, as it shows that people tend to use their clothes for as much time as possible. Moreover, only 9% of respondents gets rid of old clothes by throwing them away, while 69% of respondents donates them to charity, as shown in *Figure 3*.

Figure 3: Survey question "When you want to dispose some clothing, how do you do it?"



Having a sustainable behaviour in using clothes is not only about disposal options, but it is a daily commitment that considers how and how many times you wash, dry and iron the clothing, to save energy and water consumption and extend the clothing's life cycle. To this regard, only 46% of respondents knows how to properly manage these activities, and 64% out of them performs these activities daily. However, 85% of respondents who don't know these practices is interested in discovering and learning them to become more sustainable. Again, users do not behave in a sustainable way not because they are not interested in it, but because they are not aware of it and don't

have enough knowledge about the topic. Indeed, as shown in *Figure 4* and *5*, only 17,5% of respondents dedicate an effort to have sustainable behaviour in the purchase and use of clothes that is above the average, but 91,7% of them thinks that user's behaviour has a medium-high impact over environmental pollution.

Figure 4: Survey question "How much effort do you dedicate to having a sustainable behaviour in buying and using clothes?"

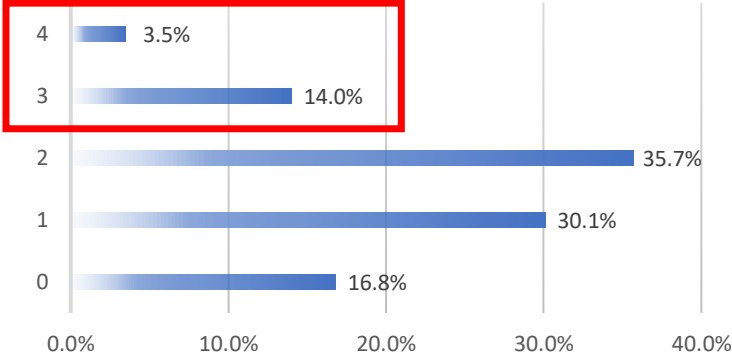
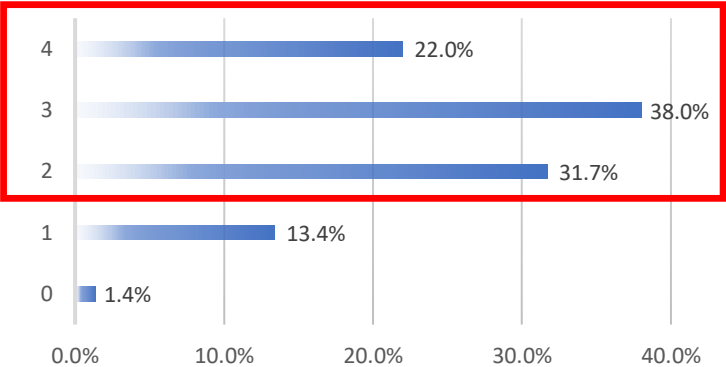


Figure 5: Survey question "How strong do you think is the environmental impact of users' behaviour for each clothing?"



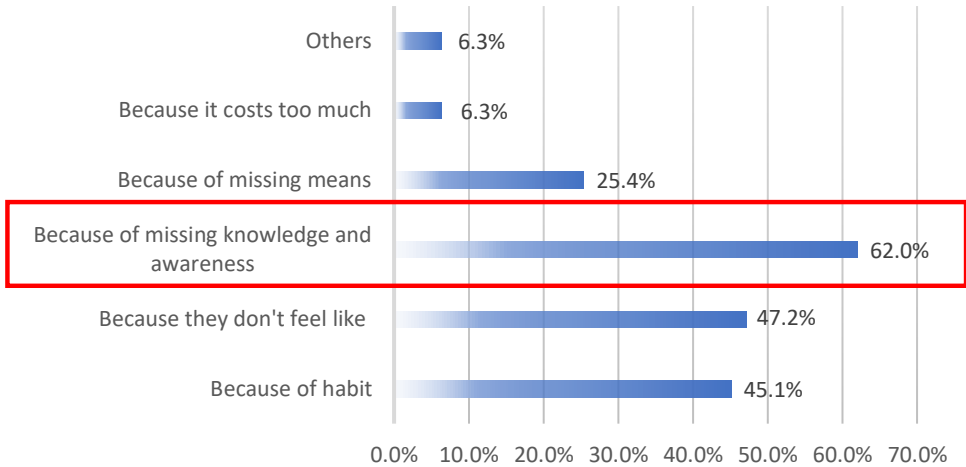
Having more awareness about this topic would influence the habits of 69% of respondents, and 83% of them are interested in discovering the causes of the fashion's environmental impact, to limit it and become more sustainable.

1.1.2. Reflection

To conclude with a final reflection about the survey's results, it is interesting to consider the last questions made to users. To uncover their hidden needs, they were asked to think about for what reason people don't bring a change in their lives to

pollute less in the fashion industry, and 62% of respondents declare that it is because of missing knowledge and awareness as shown in *Figure 6*. Another voted reason is because they don't feel like (47,2%), and more specifically some users wrote down other reasons that deserve more attention. The most relevant ones are *"because media educate about compulsive shopping"*, *"because alone you don't make the difference"*, and *"because we have now reached a point of no return"*.

Figure 6: Survey question "For what reason do you think people don't bring a change in their life to pollute less in the fashion industry?"



Lastly, 62,7% of respondents think that nowadays the right products and services to improve people's habits are missing in the market, and that if there was a new service able to guide you and let you improve your sustainable fashion behaviour, 93,7% of respondents would try it.

In conclusion, young generations are interested and aware of the issue of sustainability in relation to the fashion industry. They think it is a relevant problem that is worsening over time, but it is difficult to implement daily activities to be more sustainable and improve the situation. The biggest issue is not in the mentality itself of people, but in the one of the whole society and the market, who spread the wrong messages and incite people in buying more, throw away what deserves a second chance and care only about money and profit. The hidden need of people to change their habits is the one of finding not a reason for it, but of having the right incentives, the right messages, the right knowledge, and awareness to do it. Companies should focus on providing solutions that enable a change in the habits toward a more sustainable living, so that people can find a true motivation for their commitment. Young generations are afraid of the future, so what is needed is to create hope, and show that everyone's behaviour

can have a consistent impact and make the difference to improve the environmental condition of the world. These are the needs of future society, and something in the fashion market must change.

1.2. The Solution: PEAS Project

P.E.A.S., Product Environmental Accountability System, is an innovative project developed by Politecnico of Milano School of Management, MOOD, 1TrueID and WWG companies, in collaboration with WRÅD company, supported by the Lombardy Region with the Fashiontech Call, “a measure that supports research and development projects aimed at innovation in the textile, fashion, and accessories sector, according to the principle of sustainability, from an environmental, economic, and social viewpoint”. The PEAS project provides an intelligent system, based on blockchain and NFC tag technology, that integrates the social and environmental traceability of clothing with gamification. Indeed, PEAS technology offers customers the possibility to connect with their clothes through an innovative smartphone application, to interact with them and to monitor, in real-time, how an improved user behaviour can have a concrete positive impact on the environment. These services are enabled by the Life Cycle Assessment (LCA) analysis, followed by the company Process Factory, which calculated the environmental impact of all production steps necessary to transform “a cotton staple” into “a sweatshirt”. By analysing the production chain considering 13 different impact areas, from climate change to water consumption, the LCA analysis returns the related environmental costs, consequently used to spread awareness among people about this issue and help them in improving their daily behaviour, through gamification tools and initiatives available on the APP.

The project, to be fully exploited and become a success in the market, must be developed considering not only the product and service creation, dealing with the APP and blockchain development and the NFC tag application on clothes, but also considering the impact on the society and the competitive landscape in the market, given its high level of innovation. Therefore, it is essential to properly draft the business plan to launch the product and services in the market, by focusing on awareness creation to spread the real value and potential of this initiative and attract new partners to expand the business.

1.2.1. PEAS Tech's Stakeholders

PEAS Tech company, the innovative startup being the owner of the PEAS project, was built by the partnership of different actors who collaborated to develop the project and who will have a fundamental role also in the future to deliver the product and services in the market.

Figure 7: PEAS Tech's stakeholder map

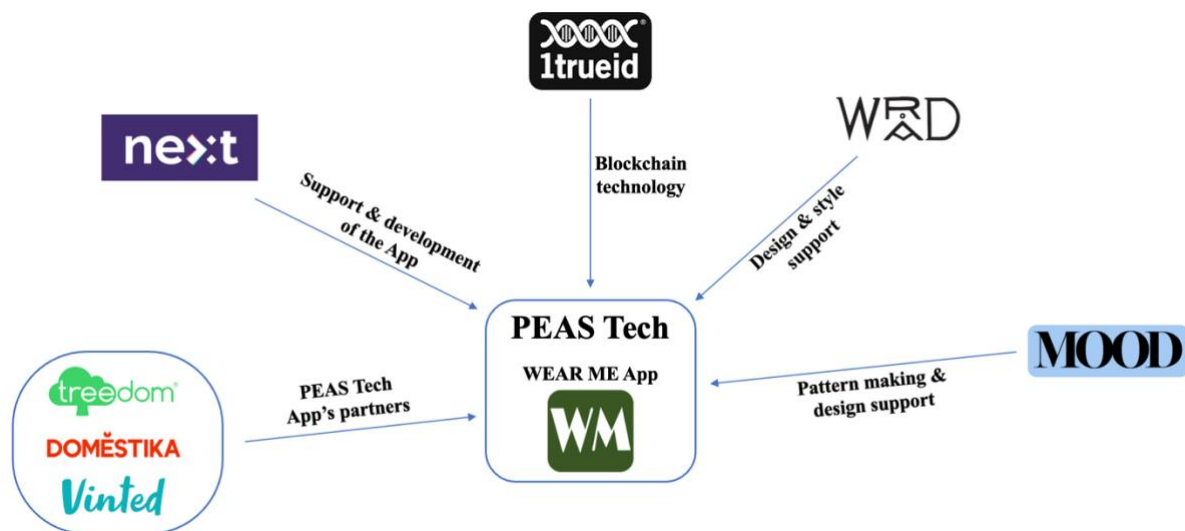


Figure 7 shows the stakeholder map, made of:

- PEAS Tech: startup owning the proprietary application WEAR ME App, in charge of the whole development of the project and its success in the market.
- MOOD: company specialized in services for clothes production, collaborating with PEAS Tech for pattern making and design support. Specifically, the company oversees the design and prototyping of the fabric patches to be applied on clothes, containing the NFC tag needed to link the wearable product to the environmental information provided by the APP.
- WRAD: design and communication company that firstly ideated the PEAS project, now responsible for the design and style support together with MOOD company and market aspects such as commercial and marketing decisions.
- 1TrueID: open and smart blockchain developer specialized in the fashion supply-chain, becoming part of the PEAS Tech ecosystem as supplier and developer of the blockchain environment, essential for the transparent and trustful control of data related to LCA analysis of wearable products. 1TrueID will oversee monitoring and support of the blockchain.

- NEXT: the new software house company who substituted WWG company to oversee the development of the PEAS Tech proprietary application, WEAR ME APP, as well as monitoring and supporting further updates and improvements.
- Treedom: website platform which allows users to plant a tree from a distance and follow the story of the project online. It is one of the first PEAS Tech partners providing rewards on the APP based on users' behaviour.
- Domestika: website community providing online courses for creatives, to let them interact with top professionals and discover the creative world's best-kept secrets. It is another PEAS Tech partner providing rewards on the APP.
- Vinted: online community platform for pre-owned wearable products, allowing users to buy second-hand clothes from others and sell theirs on the platform. It is the last current PEAS Tech partner providing rewards on the APP.

2. Peas Tech App Development

This chapter reports the development process and the definition of the features that were ideated and designed for the PEAS Tech App for smartphones. Specifically, the chapter is structured with a presentation of the application development process, the introduction and definition of the purpose of the APP and the detailed presentation of all the characteristics and features that have been designed and developed.

2.1. WEAR ME App

WEAR ME App is PEAS Tech's app that can be downloaded, for free, by customers on their smartphones, to monitor their daily behaviour in buying and using clothes and become more sustainable thanks to the stronger awareness about the fashion industry's environmental impact.

2.1.1. The Idea

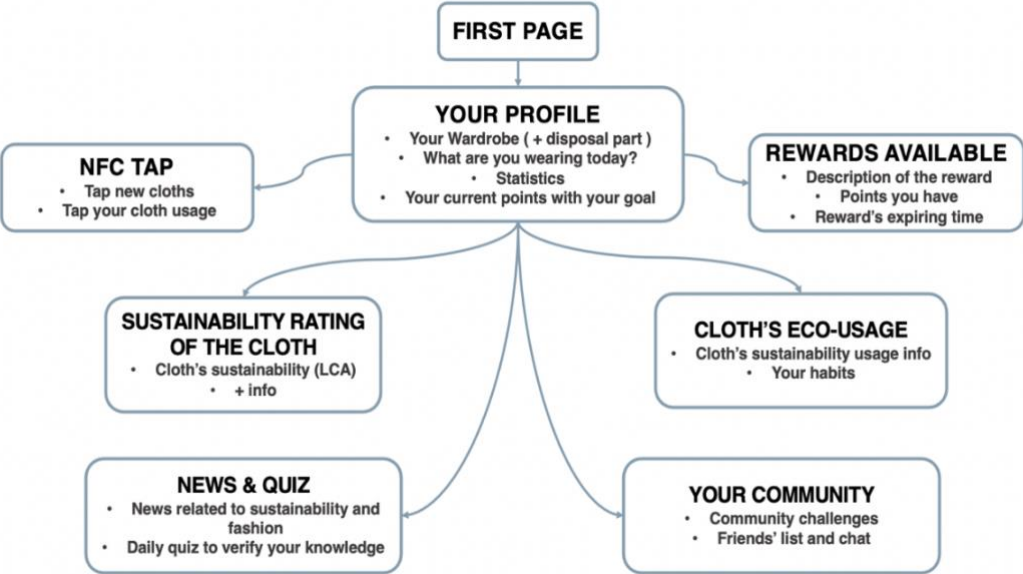
PEAS Tech wants to offer to users a new simple and intuitive way to interact with their clothes through their smartphones. The idea is to provide a digital wardrobe at the user's fingertips containing all its clothes that, through an NFC tag, can relate to the smartphones and share information.

The project, through the PEAS Tech App (i.e., WEAR ME App), has the objective of showing the environmental impact caused by all life cycle stages of a wearable product, from the production of the fabrics to their daily usage, helping users in improving and monitoring their sustainable habits about clothes usage and disposal. The key pillars of WEAR ME App to deliver the above-mentioned services in an effective way are:

- Simple and intuitive daily usage interface.
- Clear information about clothes' sustainability and usage.
- Clear and reachable targets with rewards and badges to increase engagement.
- Monitoring of users' daily habits with sustainable suggestions and tips to improve them.
- Engagement through quizzes, challenges, and news about the topic of sustainability of the fashion sector.
- Community creation and the possibility to chat.

All the decisions made to develop the prototype of the APP are made to provide the easiest daily routine for users, to keep them part of the PEAS network, discover all the benefits related to it and establish a community of people around the service, to be spread in the market as much as possible. The main services available on the APP are schematized in *Figure 8*:

Figure 8: WEAR ME App services



The “Wear Me” name of the App derives from the desire to encourage users to daily wear the clothes that contain the technology developed by PEAS Tech. By doing so, they will have the opportunity to monitor their environmental impact easily and to evaluate the sustainability of the clothes that they wear, encouraging a more responsible approach to the world of fashion and the usage of clothing.

The WEAR ME’s logo, shown in *Figure 9*, consists of the letters "W" and "M" which are the initials of the two words of the App’s name. The two letters “WM” of the logo are the same letter that is rotated by 180°. The meaning behind this decision is: as the mission of PEAS Tech is to encourage a more responsible and sustainable use of clothing, in the same way, the logo of WEAR ME is made up of the same letter "reused" twice and rotated by 180°, thus graphically representing the concept of reusing and recycling. Furthermore, the colour chosen for the logo is green, representing the concept of sustainability that is the basis of PEAS project.

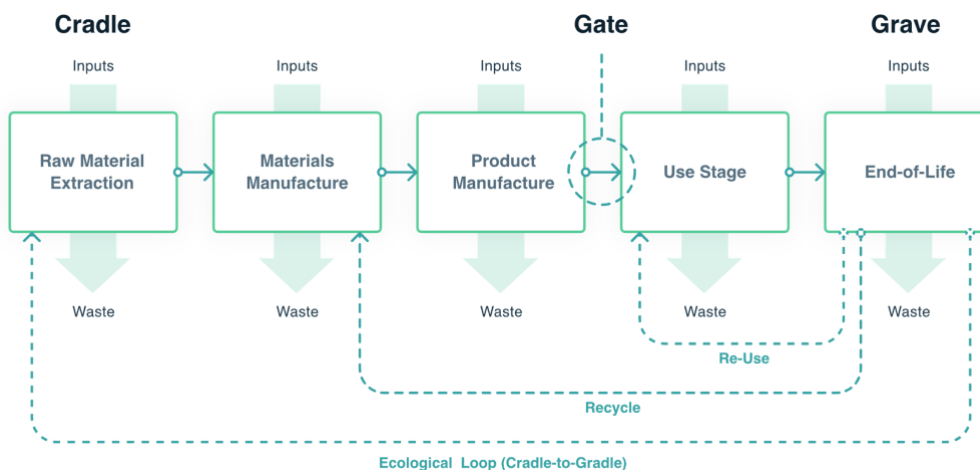
Figure 9: WEAR ME App's logo



2.1.2. LCA Analysis

To make consumers aware of the impacts related to their purchases and behaviours so that it is possible to limit the environmental impact of the garments they wear and their usage over time, it is essential to show them the environmental impact of their products through the analysis of their entire life cycle. The Life Cycle Assessment is the study of this type of analysis, extended in this case to the borders of the production plant starting from the upstream phases of the clothes' lifecycle, which can be expressed with the "cradle to gate" concept, as shown in Figure 10, until the hypothesis evaluations for the phases of use and end of life of the product. The aim of the study is to evaluate the total footprint of a product on different environmental aspects, such as air, water, consumption of raw materials, climate change, etc.

Figure 10: Life-cycle assessment



LCA assessment allows a greater understanding of the sources of pollution, and the definition of priorities for one's choices in terms of sustainability and provides useful information for the enhancement of sustainable products. The objective is to perform, through the transparent and trustful data management allowed by the blockchain

environment, an LCA assessment for each type of wearable product, to track and certify each step of production and record the related environmental impacts, and to ultimately communicate to the consumer information relating to the impact of the product and its durability to lead him to adopt behaviours of responsible use. Specifically, the user will be provided with suggestions and indications about the best possible behaviour in the use phases of its clothes (washing, drying, and ironing) as well as in the end-of-life decision, inviting the user to choose more sustainable options, with a relevant reduction in carbon emission and environmental pollution.

2.2. APP Prototype Development

In this section, it is presented the development process of PEAS APP prototype.

2.2.1. About Figma

The central point of the PEAS Tech project focuses on the creation of a smartphone application that allows users to interact with their clothes by accessing additional services and useful information. The starting point of the development process was made up of the set of features that had to be present within the application, and the testing of their actual usefulness. However, these features were not represented in a structured way and therefore it was necessary to proceed with the creation of the first application prototype.

Indeed, in the development of a smartphone application, in addition to the definition of the features embedded, it is essential to have a visual representation as faithful as possible of how the final user interface will be structured, to verify the real usability of the service offered. For this reason, an alpha version of the application was developed using the software Figma.

Figma software allows a faithful representation of how the application will be structured from a user perspective, allowing gestures such as scrolling through the screens or navigating between the different pages. This is essential since it allows developers to test the features and the daily usage of the application allowing the identification of the criticalities and, if necessary, to modify what is not correct, eliminating possible errors that would undermine the development in the subsequent phases. Therefore, the development of the alpha version is essential since it is the first

end-to-end testing of the service to ensure that it meets Peas Tech’s requirements in a "lab" environment.

The goal of developing an alpha version is to select the features that should be maintained, to test the user interface and to verify the usability of the application to create a starting point that is efficient, accurate and bug-free for subsequent developments. From *Figures 11* and *12* it is possible to analyse the APP development back-end screen on Figma. In *Figure 11* it is possible to see a screen of the development page while in *Figure 12* it is possible to notice the back-end flows that have been designed for the user to move from one page to the others. *Figure 13* shows the WEAR ME’s homepage gestures that allow users to swipe right and discover different information.

Figure 11: Screen about Figma's back-end development

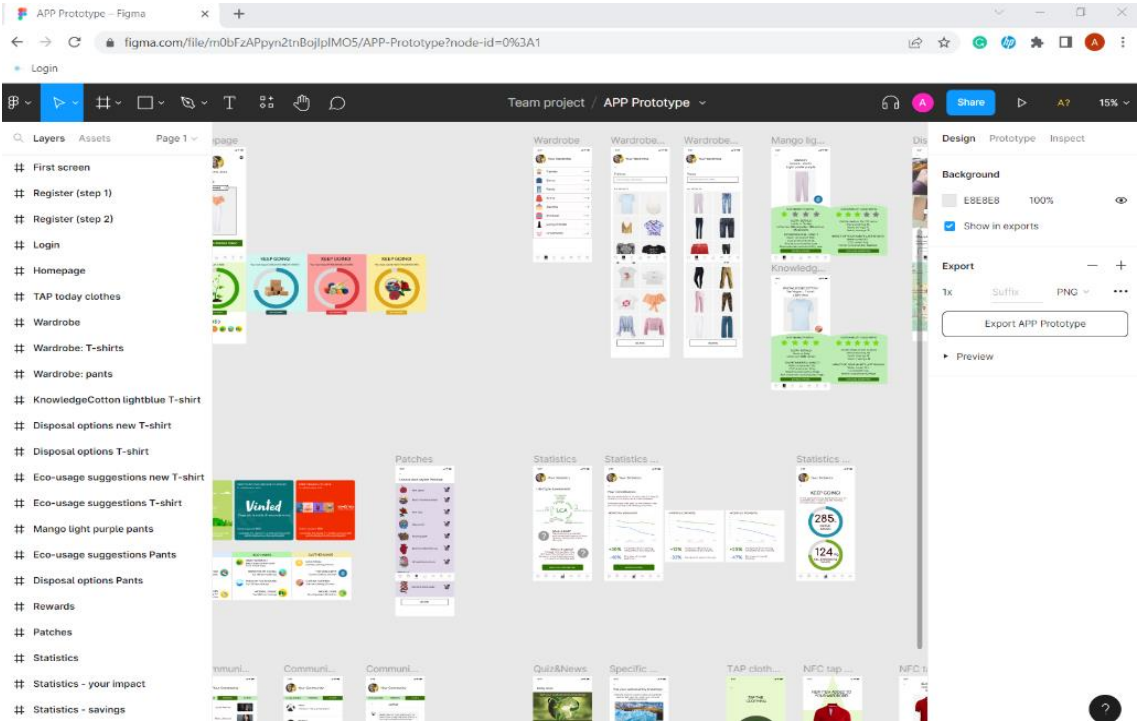


Figure 12: Screen about Figma's flow

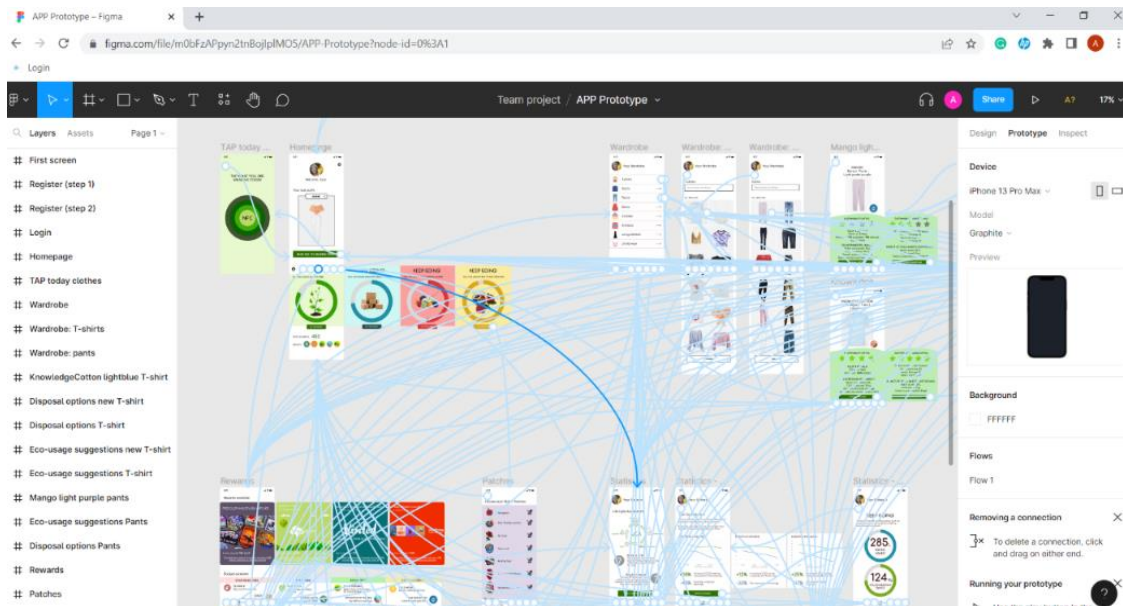
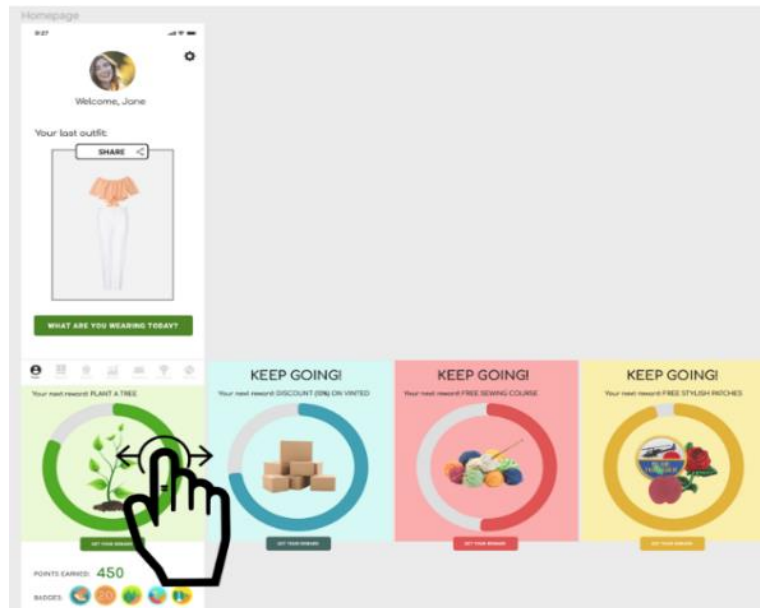


Figure 13: Screen about Figma's gestures



To navigate the WEAR ME App prototype created on Figma, click on the following link, or scan the QR code in Figure 14:

<https://www.figma.com/proto/m0bFzAPpyn2tnBojlpIMO5/APP-Prototype?node-id=16%3A1162&scaling=scale-down&page-id=0%3A1&starting-point-node-id=16%3A1162>

Figure 14: WEAR ME App QR-code



To better visualize the prototype, it is recommend viewing it from a PC or via smartphone using Chrome or Safari with the viewing option "desktop sites" activated.

2.2.2. How to Access

After having downloaded the APP from the App Store or Google Store, the application icon will appear on your phone's home screen as in *Figure 15*. By clicking on the icon, the first page appearing (*Figure 16*) represents the name of the APP, WEAR ME, and two buttons: each user must register in the app by creating his/her own profile, and then can log in to start using the available services. By clicking on the button "register", the user will have to write down his/her email and choose a valid password for his/her new profile (*Figure 17*). Going to "next" button, the last step is to choose the user's nickname and finally click on "sign up" to complete the registration (*Figure 18*).

Figure 15: APP icon

Figure 16: Opening page

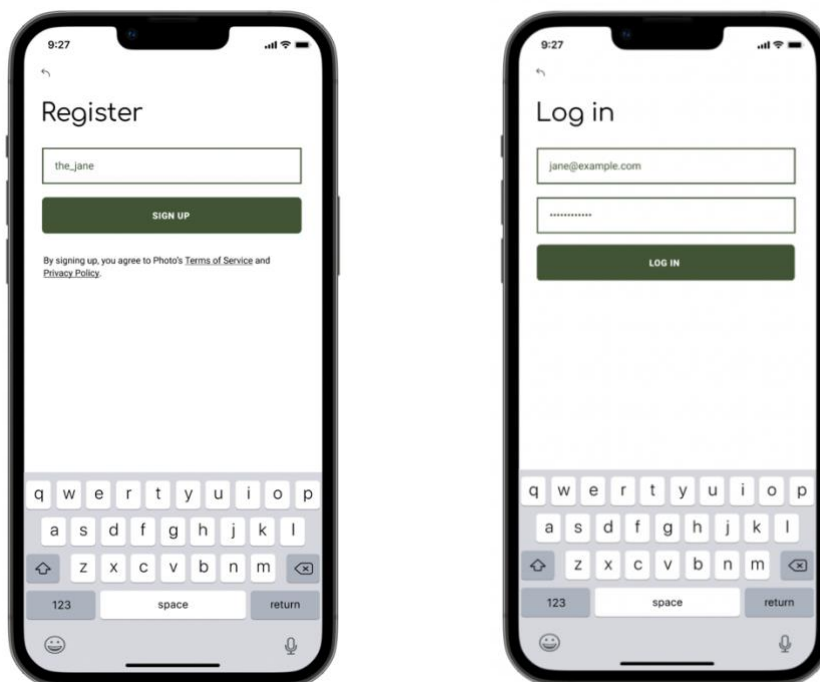
Figure 17: Register section



In case of an already existing account, instead, from the first page (Figure 16) the user clicks on the button “log in” to fill in its credentials (email and password) and access his/her own profile (Figure 19).

Figure 18: Register section, part 2

Figure 19: Log in section



2.2.3. Homepage Section

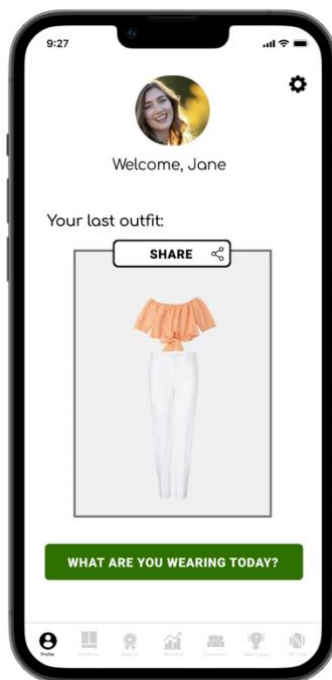
After having registered and/or logged in the APP, the first screen that appears is your profile (Figure 20). On the top of the screen, there's your profile picture and your name, with a wheel button on the right corner to access the settings of your profile and apply some modifications. On the bottom of each screen, there are several buttons, available in each section, that allow the user to move between one section and another (Figure 25). In the homepage section, there are specific services and information with the aim of incentivizing people in using the APP and sharing their info about their sustainable behaviour every day over time. Indeed, starting from the top to the bottom of the page, is it possible to find:

- What are you wearing today (Figure 20): this feature allows you to tap the clothes you are wearing every day by clicking on the button "what are you wearing today?" to be redirected to the page where to recognize and upload your clothes on the app through the NFC tag applied on them (Figure 21). This section shows then the last outfit you wore and tapped, which can be shared on your social media pages to spread awareness about the service and bring new people on board

Figure 20: Homepage section

Figure 21: NFC tag

Figure 22: Rewards' progress & badges



- Rewards' progress (Figure 22): by scrolling down on the homepage section, the APP provides you with the progress of your points earned until now, useful to obtain several rewards chosen by you. This tool is useful to focus on your behaviour to get the reward you chose, see your improvements, and be stimulated to always use the APP. It engages you in being fast and consistent in reaching the goal to obtain points' discounts on the next rewards. The user can choose which type of goal he/she wants to reach every time, by moving swiping right to the section with the reward's progress shown (Figure 24). When the user finally reached the required points to obtain the reward, he/she can click on the button "get your reward" to be redirected to the company's website (in case of partnership rewards) or to enter the PEAS reward section to choose the stylish patches to get for free (Figure 23).

Figure 23: Stylish Patches Rewards

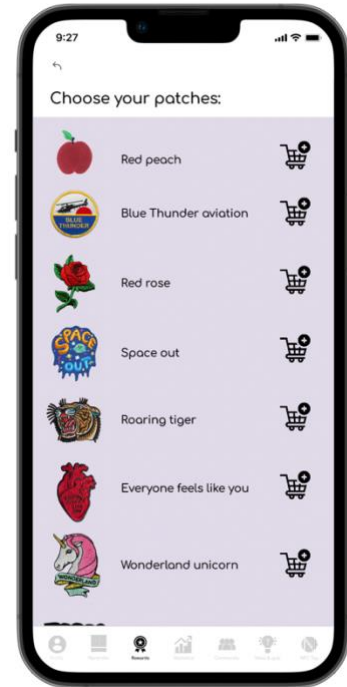


Figure 24: Rewards' progress types

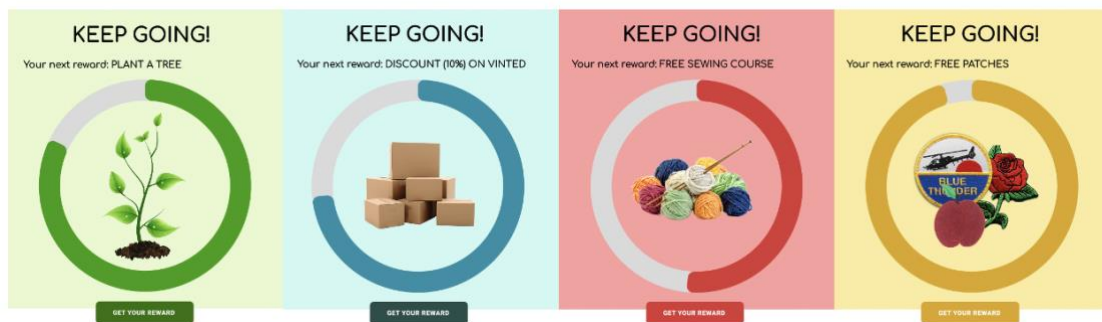


Figure 25: WEAR ME App's sections



- Badges (Figure 22): apart from earning points, by completing specific tasks and activities available on the APP the user can obtain funny badges, visible below the points earned.

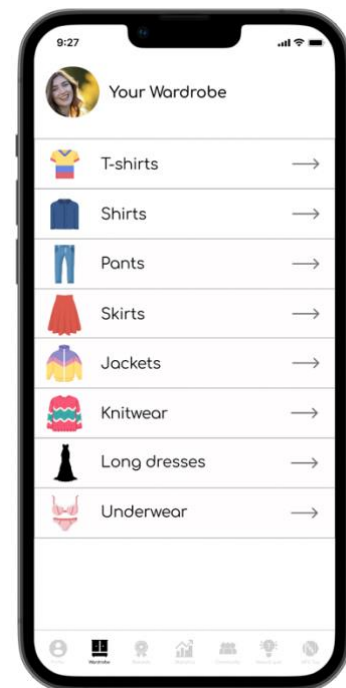
2.2.4. Wardrobe Section

Moving on to the second section, available by clicking on the second button in the bar at the bottom part of the screen, the user can access his/her virtual wardrobe, with all the tapped clothes divided into their categories (*Figure 26*).

When tapping some clothing the APP will automatically recognize the category of the clothing and will place it in the right section of the wardrobe, among the available ones:

- T-shirts
- Shirts
- Pants
- Skirts
- Jackets
- Knitwear
- Long dresses
- Underwear

Figure 26: Wardrobe section



Each clothing is recognized within its category for LCA analysis by considering different characteristics:

- Type: sweater, sweatshirt, cardigan, body, etc.
- Materials / fabric: linen, cotton, jute, wool, silk, synthetic fibres, etc.
- Shape: bust-length, sleeve length, collar, etc.
- Accessories: buttons (bone, metal, leather, ivory, etc.) zip (plastic, metal), beads, etc.
- Colours / prints / embroideries

By clicking for example on the T-shirts category, the list of all your tapped t-shirts will appear (*Figure 27*), and by clicking again on one of them it will open the full description of the clothing, containing the sustainability information from the LCA analysis (*Figure 28*). Starting from the top of the page, the app recognizes the main characteristics of the clothing, such as the brand, the colour, the shape, and a representative picture of it, while at the bottom of the page there's a first set of info related to the sustainability rating of the wearable product. Indeed, thanks to the LCA analysis, each piece of clothing has an overall star rating from 1 to 5 stars depending on the related sustainability information:

- Water consumed.

- CO₂ emissions produced.
- Brand sustainability level: low, medium, high.
- Raw materials sustainability level: low, medium, high.

Thanks to the vast amount of information available for each piece of clothing, the user can choose to filter his/her virtual wardrobe using different classifications apart from the classic one:

- Classification by season: clothes are classified depending on their “age”, so that users can select different clothes to wear without forgetting the oldest ones, thus incentivizing re-utilization.
- Classification by usability: clothes are classified depending on how many times the user has already worn them, so that the user is incentivized in wearing all the clothes he/she has in the wardrobe before buying new ones.
- Classification by sustainability: thanks to LCA analysis, clothes can be classified depending on their sustainability star rating, so that users can learn to choose the clothes to wear by looking also at the environmental impact.

Coming back to *Figure 28*, by clicking on the “disposal options” button, the user can find interesting and useful information about how to properly manage the clothing end-of-life stage, following the available ECO-disposal suggestions and options (*Figure 29*):

- Tips on how to repair the clothing, in case of broken parts.
- Possibility to sell it or exchange it with other vintage clothes on Vinted App.
- Find nearby your city:
 - Street containers.
 - Charities markets.
 - Vintage markets.

Figure 27: Tapped t-shirts

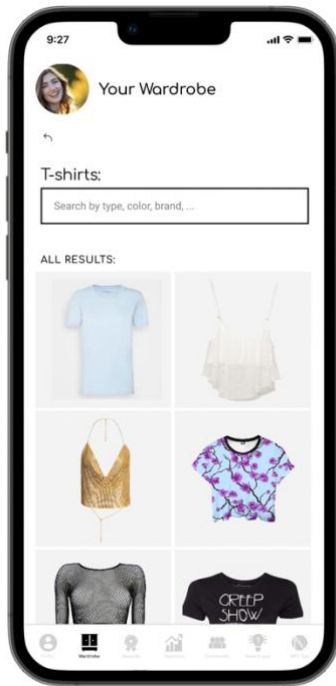


Figure 28: LCA info

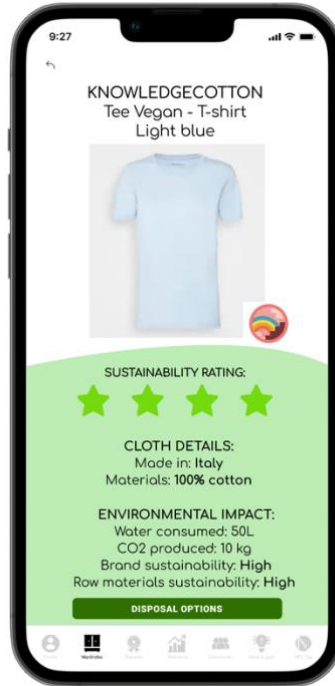


Figure 29: Disposal options



Back again to *Figure 28*, by swiping right the green section the user will discover other useful information about the clothing, as results from the LCA analysis (*Figure 30*):

- Clothing medium life.
- Yearly washings, dryings & ironings suggested.

Based on the sustainable behaviour performed by the user for that specific clothing, it is visible also the impact he/she had in the last 90 days, specifically:

- Water saved.
- CO₂ emissions saved.
- Habits' sustainability level: low, medium, high.

To improve users' sustainable habits in using clothes and increase their positive impact on the environment, the APP helps them also in performing ECO-activities instead of STANDARD-ones:

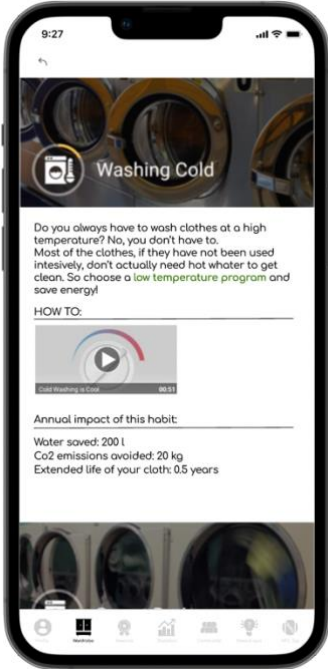
- ECO-washing: choose a low-temperature program.
- ECO-drying: avoid using the dryer in specific conditions.
- ECO-ironing: hang clothes correctly to avoid using the iron.

For each of them, the APP provides some advice for performing the activities in a more sustainable way with an explanatory video, available by clicking on the button "ECO-usage suggestions" (*Figure 31*). Moreover, you can see also the related annual impacts

you have in terms of water saved and CO₂ emissions saved if you keep behaving eco-friendly.

Figure 31: Sustainability usage rating

Figure 30: ECO-usage suggestions



2.2.5. Rewards Section

Available rewards are all related to fashion and/or sustainability, to stimulate people in improving their behaviour and opening their minds toward a more sustainable living. To provide useful and interesting rewards, PEAS Tech should create partnerships with brands being part of the industries of fashion and sustainability, with whom it would be possible to offer to WEAR ME App's users the right motivation to correctly behave every day to earn points and win the rewards. However, given the high investments needed to establish this type of relationship with partners, PEAS Tech needs also to provide some rewards that don't require any other actor involved, to be able to provide users with some rewards in any case. To invite users in expanding their virtual wardrobe and earn even more points, the easiest reward to be obtained will be the one of getting free patches to be applied on their clothes. Regarding partnerships instead, three main rewards can be:

- Have the possibility to plant a real tree in a cleared area around the world to combat deforestation, in collaboration with Treedom company.

- Obtain discounts on Vinted, the famous vintage clothing reselling website where users are invited in selling their old clothes and buy the used ones from other people, to encourage the reuse and recycling of wearable products.
- Obtain discounts or participate free of charge in a sewing and repairing course on the Domestika website.

PEAS Tech will be in charge only of the partnership contract with the abovementioned companies, while the rewards' payment will be borne by sponsors ADV shown on the APP.

The rewards section is accessible by clicking on the third button in the bar at the bottom of the APP screen (Figure 32). An interesting choice related to rewards is that users are invited in completing the reward in one month to get a 10% points discount on the next reward. This strategy has been done to keep the user involved in the experience and use the APP every day to obtain the points needed to get the reward, because earning points means improving your sustainable behaviour with your clothes and users will learn how to do it constantly, thus becoming a routine in their life. It doesn't make any sense if a user starts using the APP and earns points without frequency, to win the reward in six months, because in that case the inner meaning of the application services wouldn't be understood by the user. What is important is that users understand that they want to use the APP every day to improve their sustainable behaviours, while rewards would be just the consequence of these actions. Also in this section, users can swipe right to explore the rewards available and see how many points are required for each one (Figure 33). As a starting point, the points required to obtain each type of reward are the following:

- Free clothing patches: 100 points each
- Plant a tree – Treedom: 800 points
- Discount on vintage clothes – Vinted: 1000 points
- Free/discounted sewing course – Domestika:1500 points

These required points to get the rewards are low because they are defined only for the first months of activity after the app's launch, to sustain a rapid growth of the app usage and number of clients in the network.

Figure 32: Rewards section

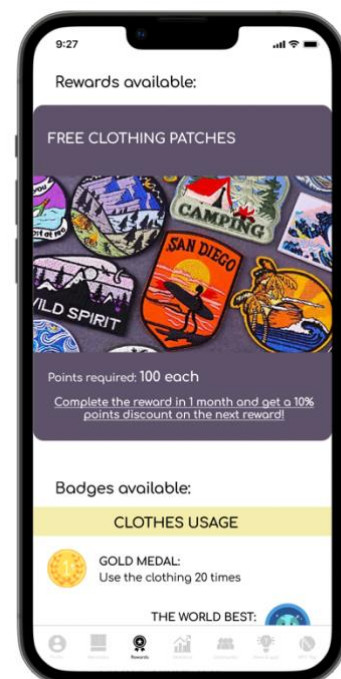


Figure 33: Available rewards



By clicking on the rewards, users will be redirected to the partners’ websites, or PEAS Tech’s website in case of patches, to find more info about the rewards available.

In this section, users can see also the badges available to be collected, divided into four main categories: your wardrobe, APP usage, ECO-habits, and clothes usage (Figure 34).

Figure 34: Badges available



Collecting badges is a funny way to earn points, and Table 1 resumes the points earned for each type of badge available.

Table 1: Badges’ point system

CATEGORY	BADGE	POINTS EARNED
YOUR WARDROBE	BEGINNER: tap your first clothing	+10
	EXPERT: add 20 clothes in your wardrobe	+20
	MASTER: add 50 clothes in your wardrobe	+30
	SUPERHERO: add 100 clothes in your wardrobe	+50

APP USAGE	FIRST STEPS: use the app for 2 days in a row	+10
	WALKING LOVER: use the app for 1 week	+20
	RUNNER: use the app for 1 month	+30
	MARATHONER: use the app for 6 months	+50
ECO-HABITS	GREEN SUPERMAN: keep 5 stars of eco-habits for at least 30 days	+10
	PROTECTOR OF THE SEA: tap 1000 eco-washings	+20
	FRIEND OF PENGUINS: tap 1000 eco-dryings	+30
	WATERFALL BADGE: tap 1000 eco-ironings	+50
CLOTHES USAGE	GOLD MEDAL: use the clothing 20 times	+10
	THE WORLD BEST: use the clothing 50 times	+20
	CLOTHES ADDICTED: use the clothing 100 times	+30
	NATURE LOVER: eco-disposal of 50 clothes	+50

Apart from badges, users can also earn points to get rewards through specific activities, resumed in *Table 2*:

Table 2: Points' system

ACTIVITY	POINTS EARNED
Downloading the app	+50
Tap a new clothing	+15
Tap a clothing of your wardrobe	+20
Reuse	+30
Donating	+30
Disposal into collection bin	+30
ECO-washing	+5
ECO-drying	+5
ECO-ironing	+5
Daily/weekly quiz	+2
Daily/weekly challenges	+3
Invite friends	+50
Share on social media	+50
Use the app every day	+100/month

These activities are all defined to invite the users to keep using the APP every day, to create a routine in using their clothes that can ultimately educate them in having a more sustainable behaviour over time, by also involving their friends and being an example for the whole society.

2.2.6. LCA Statistics Section

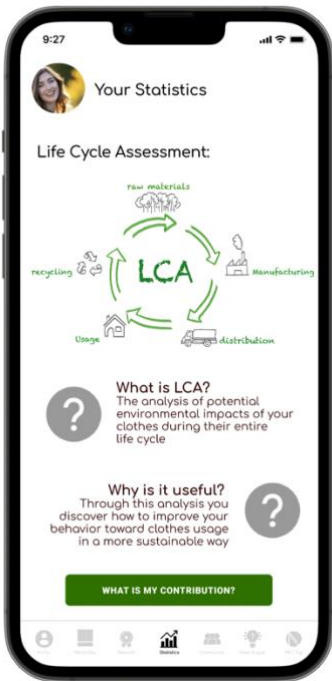
Apart from specific sustainable ratings for each clothing, it is important also to increase the awareness of people about LCA analysis and the importance of everyone’s contribution to the environment and the society. By clicking on the fourth button in the bar at the bottom of the screen, the APP will provide to the user the essential information to understand what an LCA analysis is and why it is useful (Figure 35). Moreover, by clicking on the “what is my contribution” button, the user will discover his/her overall statistics about his/her sustainable behaviours with all the clothes recorded in the digital wardrobe (Figure 36). Indeed, here are shown different monthly graphs about the user’s behaviour in using products:

- ECO VS STANDARD washing/dryings/ironings, to highlight your improvements over time.
- Decrease of overall washings/dryings/ironings over time, to highlight the sustainable clothing usage you perform.

Figure 35: LCA

Figure 36: Your contribution

Figure 37: Monthly savings



The user can also discover his/her monthly savings of water and CO₂ emissions thanks to the overall behaviour with the clothes, by clicking on the “monthly savings” button (*Figure 37*).

The aim of this section is to provide clear and useful information about what is the real impact that each user has on the environment because of his/her behaviours when using clothes, to increase awareness and interest in this cause and to let people understand the relevance of everyone’s actions to change the situation and improve it.

2.2.7. Community Section

To spread awareness among people and bring on board a whole community around the service, the APP provides a specific section for interactions among friends of the community. Indeed, an essential feature to make the PEAS Tech offering work and have an impact in the society, is to bring on board as many users as possible in using WEAR ME App and becoming part of the PEAS Tech’s network. The more users improve their sustainable clothing behaviours, the stronger will be the positive impact on both environment and society, and the more users will be invited in joining it thanks to network effects. Thus, it is important to invite users in creating this sense of community while using the APP and let them stay in contact with their friends and other people to pursue together a common purpose.

The community section is accessible by clicking the fifth button in the bar at the bottom of the screen, where three main sub-sections are available:

- Next months’ available challenges (*Figure 38*): users can perform different activities with their community by taking part to the time-limited challenges and trying to reach the goal together to earn points.
- Friends’ section (*Figure 39*): users can have a look at their friends’ list, discover their sustainable profiles and invite new friends in the community.
- Chats (*Figure 40*): users can chat with their friends to share suggestions and tips about fashion, clothes, and sustainable behaviours.

Figure 38: Community challenges

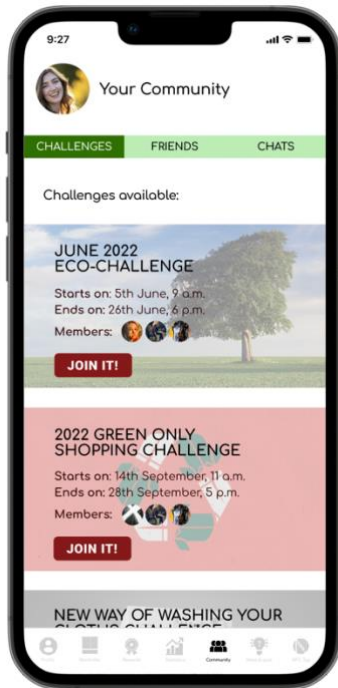


Figure 39: Friends

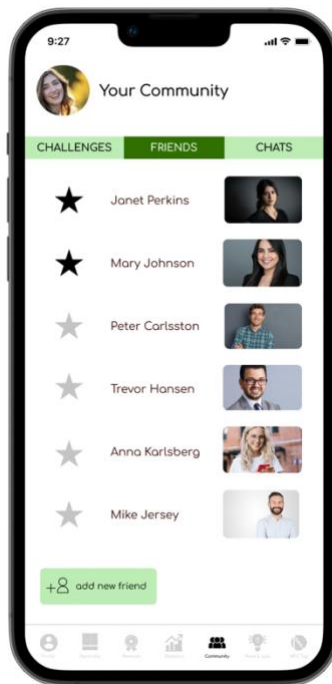
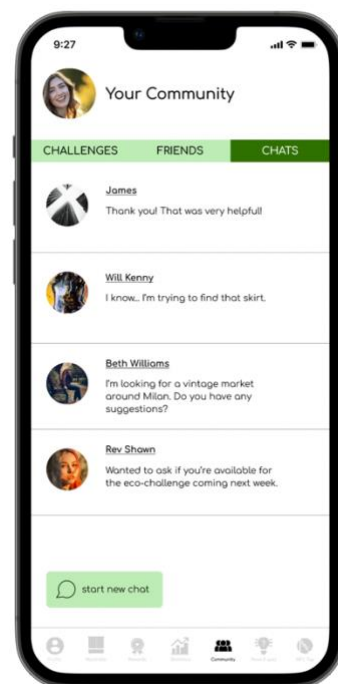


Figure 40: Chat



2.2.8. Quiz & News Section

To increase the knowledge level about sustainability and keep the user interested in the field, the WEAR ME App provides daily news related to the fashion industry and sustainability practices, visible in the sixth section of the APP (Figure 41). Moreover, users can test their level of knowledge by performing the daily quiz, always related to fashion and sustainability fields. Doing the quiz will let them earn points for getting the rewards, and it provides a funny and engaging way of learning and improving their behaviour. Users can also have fun together with their friends in performing the quiz, to challenge themselves and test who will answer more questions correctly. To do the quiz, users click the button “take the quiz” and enter another page with different multiple-choice questions to be answered (Figure 42). In the end, users will submit the quiz and see the results to discover their level of knowledge.

Figure 41: Quiz and News

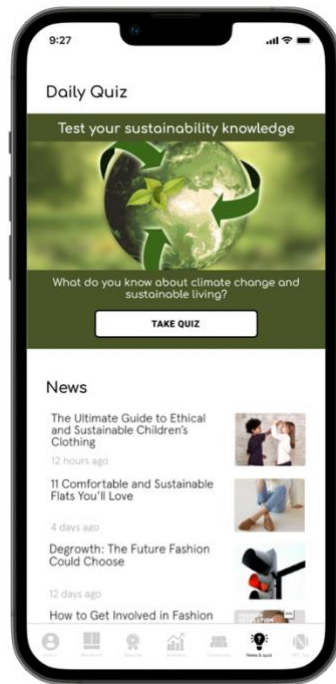
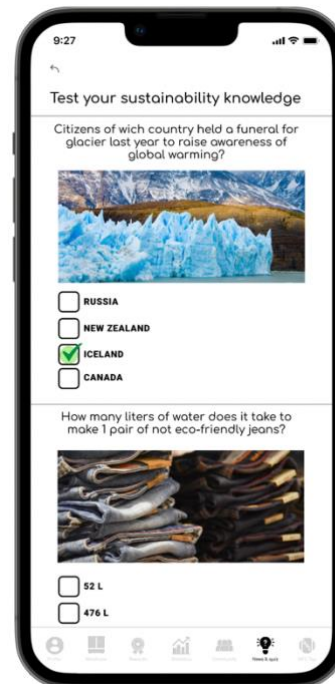


Figure 42: Take the quiz



2.2.9. NFC Tap Section

Thanks to the NFC tag technology, users can easily record their own clothes on the digital wardrobe in the WEAR ME App by simply placing the phone on the Stylish Patch or NFC-TAG Label of the shirt, where the NFC tag is present. The APP, thanks to the LCA data distributed in the blockchain ledger, will automatically recognize the clothing you want to register. To tap an item of clothing, users must enter the last section of the APP, the "NFC Tap section" visible in *Figure 43*, to record two main activities:

- Add a new clothing to your wardrobe: when tapping a new clothing, the APP will recognize that the clothing is not present in your virtual wardrobe and will automatically add it to the related category (*Figure 44*). Users can immediately discover the sustainability information and characteristics of that wearable product, by clicking on the "discover sustainability info" button (*Figure 45*).

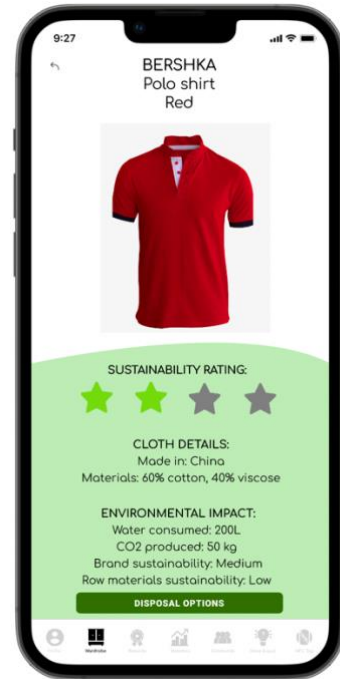
Figure 43: NFC tap



Figure 44: New clothing



Figure 45: New clothing's info



- Tap some clothing you already have in your wardrobe: every time users perform an activity with their clothes (wear it, wash it, dry it, iron it, dispose it), they must record it in the APP by tapping the clothing. WEAR ME App will recognize the product from your virtual wardrobe and will ask the user to mark the activity performed to be recorded: ECO or STANDARD washing/drying/ironing (Figure 46). It is important to distinguish between ECO and STANDARD activities because performing an ECO activity is more sustainable and beneficial for the environment and it allows users to earn additional points. If the user wants to dispose the product, he/she must record which disposal option he/she chose to delete the clothing from the wardrobe (Figure 47). Also in this case, by choosing an ECO-disposal the user will earn points.

Figure 46: Record activity

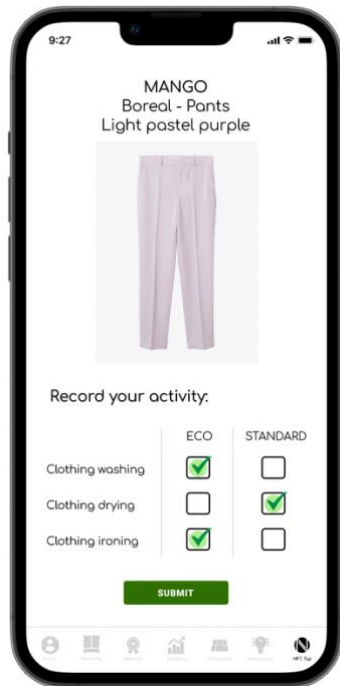
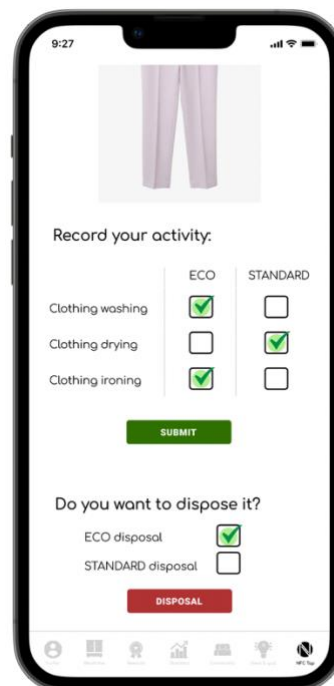


Figure 47: Disposal



2.2.10. Notifications

WEAR ME App will notify users to keep them engaged in using App every day. It is important to properly select which type of notifications to program and the related frequency, to engage the user and “remember” him to use the APP but being careful to not overdo it and let the user become stressed and annoyed by the service. The main notifications chosen are related to:

- New suggestions about sustainable behaviours.
- Reminder of completing your reward before a certain period to get the discount.
- Reminder of filling your daily info of clothing behaviour.
- Reminder of filling what are you wearing today.
- Reminder of clothes not used for a long time: when it passed too much time from the last time you tapped some clothing, you receive a notification to remember to use it again.
- New quizzes, news & challenges available.
- Community notifications.

2.3. Example of User's Journey

Figure 48 shows an example of a user's journey when using the APP and related services.

Figure 48: Example of user's journey



2.4. Next steps

The prototype developed is the alpha version of WEAR ME and it will be developed by the external software house NEXT. It is difficult to make a successful app inside the mobile industry because this type of market is characterized by low barriers, high competition, low retention, and high marketing costs to attract users. For this reason, it is essential for PEAS Tech to properly manage the first launch in the market of the APP, by leveraging channels dynamics, virality, and hacking distribution to acquire the needed traffic. To spread the new service in the market, marketing actions are an important lever to be considered. Thus, the company must understand the type of customers who wants to attract, to provide an efficient and effective user experience when they enter in contact with the APP, so that they become loyal to the brand and attract even more users thanks to network effects. More details about marketing initiatives are presented in *Chapter 4*.

After the WEAR ME App first launch in the market, PEAS Tech will perform AB tests and experiments on users to get feedbacks and to understand which types of improvements and changes must be done to develop the next upgrading of the APP. The final goal of the company is to improve the high-level metrics of the APP, namely activation, conversion, retention, and ARPU (Average Revenue Per User). The APP revenue model is a free model because users can download the APP for free and there's no paid subscription to be done, but revenues come from advertisements and in-app purchases, which depend on the volume of users who not only download it but who use it continuously over time. That is why all decisions made during the prototype development were focused not only on attracting the largest possible audience but especially on keeping them engaged in the APP, to build a wide and stable network of people being part of the PEAS Tech's community. This mission must be pursued also in the next steps of PEAS Tech, to guarantee a high level of efficiency and effectiveness of the services provided and reach the final goal embedded in the vision of the company. Once the final version of WEAR ME app has been developed, with the support of NEXT, basing on the alpha version, developed on Figma, PEAS Tech will proceed with the definition of the partnership contracts with companies that will enrich the rewards section of the app; Vinted, Domestika e Treedom. In this way, the APP will be launched in August-September 2023 in full version with all the collaborations and functionalities activated.

3. Peas Tech Business Plan

This chapter contains the PEAS Tech's business plan. In detail, it is reported the external analysis of context in which the company will operate and the strategies and processes necessary to run and let the business grow. The company's commercial proposal is defined with the go-to-market strategy and the growth plan. The processes and the organizational structure of PEAS Tech is reported, as well as the definition of the development, production, and distribution activities indispensable for the commercialization of the products. Finally, is presented the financial analysis, useful to verify the economic sustainability of the firm, and the risk management strategy.

3.1. Context Analysis

To define the business plan of the innovative startup PEAS Tech, it is essential to start from the analysis of the context in which the company will operate. Therefore, it is important to collect information and to study the future trends that are emerging, as well as analysing in depth how companies of the sector and other innovative startups are moving within the market and what are the new technologies and innovative processes that are under development.

3.1.1. PESTE Analysis

The analysis of the context starts from the study of the current fashion industry market, considering different dimensions: political, economic, social, technological, and environmental ones.

Political

The fashion industry is composed of a complicated network of subindustries with an intricate and complex supply chain which, due to globalization, has the manufacturing locations in countries of the developing world, especially China and India. Throughout the 1990s in fact, fashion brands and labels in the United States and European Union shut down their company-owned manufacturing facilities and built a system of contractors and subcontractors in developing countries. This led to greater product choice and lower prices for western consumers, but significant social, economic, and political challenges arose, impacting especially the labour standards and regulations. Significant labour abuses permeate the garment manufacturing industry, because of

the unlimited hours of work with insufficient breaks, the low and delayed wages and the physical and mental abuses and harassment. A dramatic condition is child labour, which is still present in developing countries and it is hidden by big firms from the western world, like the scandal of Nike Brand. These conditions worsen in the latest years due to the advent of fast fashion, the low-cost, low-quality, on-trend apparel dominating the modern fashion industry with retailers such as H&M, Zara, and Forever21.

Due to both social and environmental conditions of the fashion industry, in the latest years most major global fashion brands adopted codes of conduct with statements protecting the basic human rights of garment workers, environmental, health, and safety protections. Also, a system of factory monitoring and audits was developed with most fashion brands participating and annual social responsibility reports are published by many firms. However, political consumerism is still present in the major forms of boycotting (pressure activities aimed at suspending licenses agreements and manufacturing conditions of brands undermining the labour human rights), buycotting (campaigns urging consumers to not buy particular brands with the aim of buying “better” and support “good” companies and products), lifestyle (consumer lifestyle strategies such as slow fashion movement, aiming at moving from big production of products to circular economy and product-service system for sustainable approaches to consumption), and discursive strategies (communicative and noneconomic actions intended to generate consumer understanding about an issue, such as labour and environmental issues in the fashion industries, to encourage consumers to influence the practices of their companies).

Even if political consumer activism brought progressive contributions within the industry in the last decades, fast fashion and high consumption levels became new challenges to be solved, because the industry still remains human-labour intensive, saturated with manufacturing factories and with intense competition from Western brand.

Economical

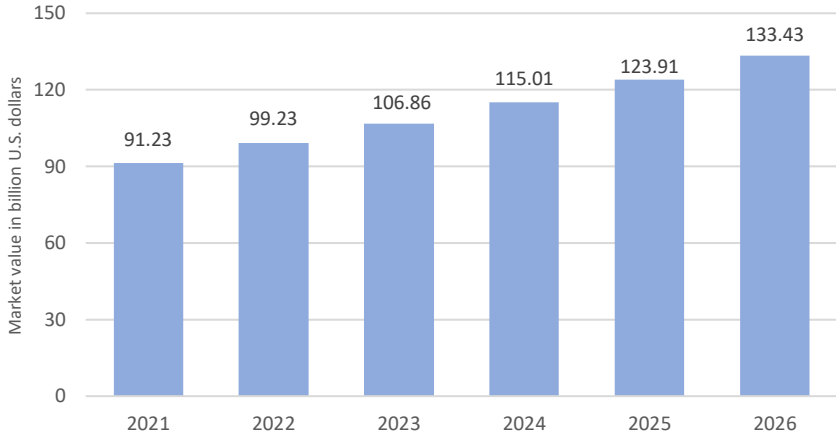
The fashion market considers every kind of clothing, from sportswear to business wear, from value clothing to statement luxury pieces. After difficulties in 2020 during the coronavirus pandemic, when sales across the apparel industry took a hit, the global demand for clothing and shoes is set to rise again. Global revenues in the market were calculated to amount 1.5 trillion U.S. dollars in 2021 and were predicted to increase to approximately 2 trillion dollars by 2026. The countries that account for most of this

demand are the United States and China, both generating higher revenues than any other country. China leads the rankings for the highest value of apparel exports. The U.S. is second only to the EU in the value of apparel imports.

Focusing on market segments, revenues generated from the women’s market are much higher than those of men's or children’s apparel. In the U.S. alone, women’s apparel generated more than 133 billion dollars in revenue. Considering the different divisions of the fashion industry, one of the most notable is the second-hand apparel industry, which is forecasted to grow, as the consumer demand for more environmentally conscious apparel options increases. The luxury market is also a key market in the apparel industry; it is projected to double in size from 2021 to 2026.

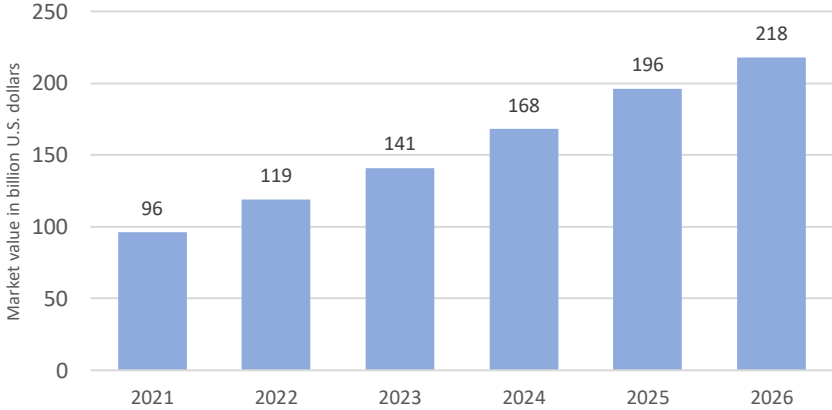
The two Figures below (Figure 49, Figure 50) show the forecasts of market value for both fast fashion and second-hand apparel industries, relevant for the PEAS Tech offering in the market:

Figure 49: Fast fashion market value forecast worldwide



Source: Research and Markets; Statista 2022; PR Newswire.

Figure 50: Second-hand apparel market value worldwide



Source: Thredup; Statista 2022; GlobalData.

Social, Technological and Environmental

When talking about the textile and clothing industry, it is useful to keep in mind that it is one of the world's most important industries, driving a significant part of the global economy. Therefore, this industry has a strong impact on the world we live-in and unfortunately up to now not very positive, as highlighted by the recent WWF's Report where more than half of the analysed companies have not so far adopted measures to help counter the effects of climate change.

Going more in-depth on the environmental impact of the fashion industry, interesting data must be considered:

- The industry produces a very high amount of greenhouse gases, surpassing global aviation and shipping combined.
- Fashion emissions represent 8% of total emissions: 1.2 billion tons per year.
- The industry produces 3.3 billion tons of carbon dioxide per year, equal to that which the entire European continent produces in the same period of time.
- The Ellen MacArthur Foundation estimates that fashion could absorb 25% of the global carbon budget by 2050.

The high environmental impact of the fashion industry is due both to the production of the garments themselves, but also to the unsustainable behaviour of consumers. The latter is also influenced by the latest marketing techniques of companies and influencers, which encourage the frantic purchase and almost "disposable" consumption of clothing:

- In 2015, consumers bought 60% more products than in 2000.
- If emerging market countries reach the consumption levels of Western nations, the carbon dioxide emissions of fashion would increase 77%, water consumption by 20% and land consumption by 7%.

For this reason, designers, manufacturers, and companies are responsible not only for the environmental impact of the fashion industry but also for the unsustainable consumption behaviour of consumers and the increase of waste streams.

The new clothing supply chain, mainly driven by the fast fashion trend, increased, even more, the environmental pressure on the fashion industry. Fast fashion offers consumers an opportunity to buy more clothes for less, but those who work in or live near textile manufacturing facilities face unsustainable conditions for their health and the environment's health. The increased consumption behaviours have also created millions of tons of textile waste in landfills and unregulated settings, especially in low and middle-income countries where much of this waste ends up in second-hand

clothing markets. It is necessary to implement and enforce environmental and occupational safeguards to protect human health in those regions. The main processes responsible of environmental pollution are fibre production, yarn and fabric manufacturing, chemical processing, garment manufacturing, retailing and consumer usage, because of energy intensive processes, use of toxic chemicals, and low relevance for corporate social responsibility.

Many initiatives were put in place as voluntary actions from environmental associations and consumers, but many companies still refuse to sign up and there is little national governance or intentional law to ensure compliance with the noble aspirations of others within the fashion industry to tackle the issue.

When analysing this industry, it must be borne in mind that it has a strong impact on society; it influences society's habits and trends, and, vice versa, it is influenced by them.

Nowadays the fashion industry is going through a period of evolution and change driven by main 2 trends:

- The increase in concerns about the sustainability of products, raw materials, and the ethical use of the workforce (this is going to impact heavily the "fast fashion" business model).
- The needs for connectivity and digitalization desired by the new generations that enable the application of new technologies in this industry reshaping the business models.

The main source of transformation of the industry is given by end-consumers. Today a big portion of the final consumer want to reshape their lifestyle towards ecology, being more aware of the environmental impact of the fashion industry, purchasing more ethically and having more sustainable habits. These trends are translated into a series of new consumers' behaviours, such as:

- The purchase and re-sale of second hands cloths through online platforms (i.e., Vinted) or in physical markets. As Deloitte reported in 2021, 40% of consumers would like to buy second-hand items.
- New habits related to the reuse and repair of used cloths, as McKinsey reported in 2021, 57% of consumers would like to repair their garments to prolong their usage instead of replacing them with a brand-new equivalent item.
- The choice of brands that have environmentally and ethically sustainable values and practices. In fact, according to the 2021 Deloitte Consumer's Sustainability

Report, 34% of consumers will stop to purchase certain brands or products because they have ethical or sustainability-related concerns about them.

These new behaviours are shared by all generations, but especially Gen Z and Millennials are highly engaged in particular for what concerns the ethical implications and the purchase of second hands items.

A further fundamental aspect to analyse is how technological evolution will impact on production processes of the fashion brands and in particular the relationship with customers in their pre/post-purchase experience:

- Application of AI to enhance customer's shopping experience and improve the supply chain efficiency.
- The use of IoT and Smart Clothing to improve the user's daily usage with virtual and augmented reality.
- The increase in usage of mobile apps for e-Commerce and social enhancing the user experience.
- The application of blockchain technology will improve transparency, traceability, and efficiency in the supply chain, allowing the producers, the suppliers, and the final customers to be connected and to share information securely and directly.

Fashion companies, to be able to follow the new sustainable needs of customers, must rethink their processes and to understand which is the environmental impact of their activities by applying methodologies such as the LCA analysis on their products. They need to integrate the concept of sustainability inside their processes and communicate outside this information that are valuable for the customers in a new way leveraging cutting-edge technologies, such as IoT or Smart Products, in a simple, transparent, and effective way.

3.1.2. Case Studies

To analyse in practice what other companies in the fashion sector and innovative start-ups are offering today in the market, in relation to the offer proposed by PEAS Tech, different case studies have been selected.

Wear Me 30 Times – Genuine Way & Maakola (Figure 51)

Launched in October 2020, Wear Me 30 Times is a slow fashion initiative conceived by Genuine Way, a technology company active in the certification of sustainability through blockchain technology, and Maakola, a sustainable fashion brand from

Ghana, to bring together fashion and sustainability, encouraging consumers to extend the life and use of their garments from less than ten to a minimum of thirty times, to protect the environment. Genuine Way and Maakola created a label within the garments that allows them to keep track of the number of times they were worn. The service engages users through a gamification system: the user is invited to have their smartphone "read" the QR Code to disseminate the awareness campaign of sustainability and ethical behaviour on their social channels in a fun way.

"To achieve sustainability in the fashion world we need transparency and data that allow us to measure the impact of our actions on the environment."

Strengths of the services:

- A new mindset in which clothes are not seen any more as disposable but as an investment for the future.
- Blockchain technology to provide transparent data for environmental impact.
- Gamification system to engage users in using the service actively over time.

Figure 51: Wear Me 30 Times



Good On You (Figure 52)

Good On You is an app for smartphones whose goal is to inform consumers by providing a rating of fashion brands' sustainability and articles about this topic. These ratings are developed by evaluating the steps that brands take in the field of respect for the planet, animals, and people. The rating is given on a scale of 5: great, good, it's a start, not good and we avoid. Good On You commitment is to take part in driving

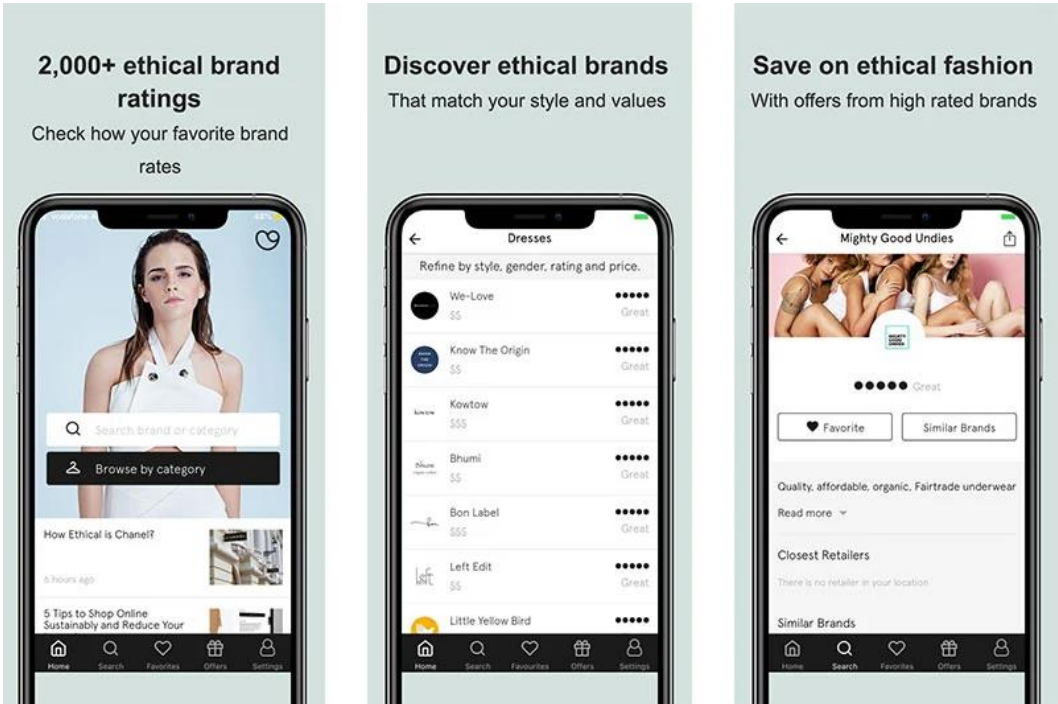
the fashion industry to be more sustainable and ethical by giving greater awareness to the end consumers, who want to be better informed about the environmental impact of the fashion industry. Innovative is the fact that the app can suggest to the user a new list of sustainable brands according to his loved brands' list.

“By choosing ethically you become the solution. Wear the change you want to see”

Strengths of the service:

- Transparent and objective rating of Brands' sustainability.
- Direct communication with the end-consumers.

Figure 52: Good On You



Gucci Tag (Figure 53)

Gucci has recently started inserting smart NFC tags within its products. This service is introduced mainly to verify the authenticity of the products and thus stem the great problem of counterfeit products.

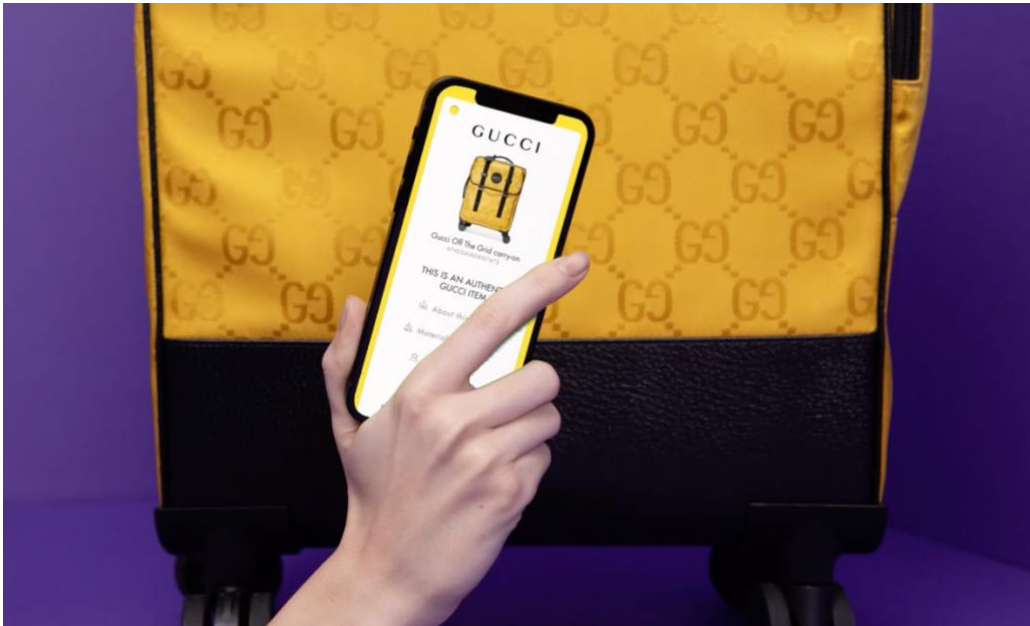
The customer through his smartphone can access the data shared by the NFC tag, through a specific app, to obtain the certificate of authenticity of the product and access additional contents such as how the product was crafted, discover the best care techniques, and get personalized after-sale assistance from his client advisors.

Strengths of the service:

- Verify the authenticity of the item in a smart and precise way.

- Enhance customer experience and post-purchase activities.

Figure 53: Gucci Tag



Nike NBA Connect Jersey (Figure 54)

Nike in 2017, in partnership with the NBA, introduced an NFC tag placed on the lower part of the NBA Jerseys of that season. The user, through the NikeConnect App, can tap the jersey with his smartphone acquiring access to exclusive contents and having a personalized digital experience unique to the player or team of his jersey. In addition, he could have early access to the launch of new products, contents, and seats at sports events.

The main objective of the service is to increase user engagement and increase post-purchase loyalty through omnichannel activities. Innovative is the possibility given to the NBA's teams and athletes to have insights about who and where their fans are, allowing them to offer customized messages and rewards.

Strengths of the service:

- Enhanced customized digital experience for the users.
- Post-purchase omnichannel experience.
- Verify the authenticity of the jersey engagingly.

Figure 54: Nike NBA Connect Jersey



Certilogo Stone Island (Figure 55)

Stone Island, since the Spring-Summer 2014 Collection, has introduced a simple and effective technology consisting of a QR-Code and a 12-digit code on a label to verify the authenticity of the product through accessing the official website. In this way, with a simple technology which does not require app development, it is possible to stem the great problem of counterfeiting. However, compared to other solutions its purpose is limited and does not allow the user to have an enhanced experience or more valuable information about the cloth.

Strengths of the service:

- Verify the authenticity.
- On the company side, low investments are required for the introduction of the technology.

Figure 55: Certilogo Stone Island



Storey (Figure 56)

Storey is an app that allows the user to digitize his clothes by creating a digital wardrobe. To digitalize the garments there are two methodologies: the first one is by taking a photo via smartphone; the second one, in the case of online purchases, by connecting Storey to the online checkout carts of the e-Commerce website to directly transfer the items to the digital wardrobe.

Through the app, the user can easily manage his wardrobe, insert outfit's selfies to remember the looks, receive the outfit of the day recommendations and enter a community of people that share their styles and be inspired.

A further goal of Storey is to help users to better manage their wardrobe by keeping track of the clothing they own and giving them the possibility to sell the items that are not used directly from the app; in this way, they encourage a more aware usage of the cloths and thus a more sustainable fashion system. The Storey's motto:

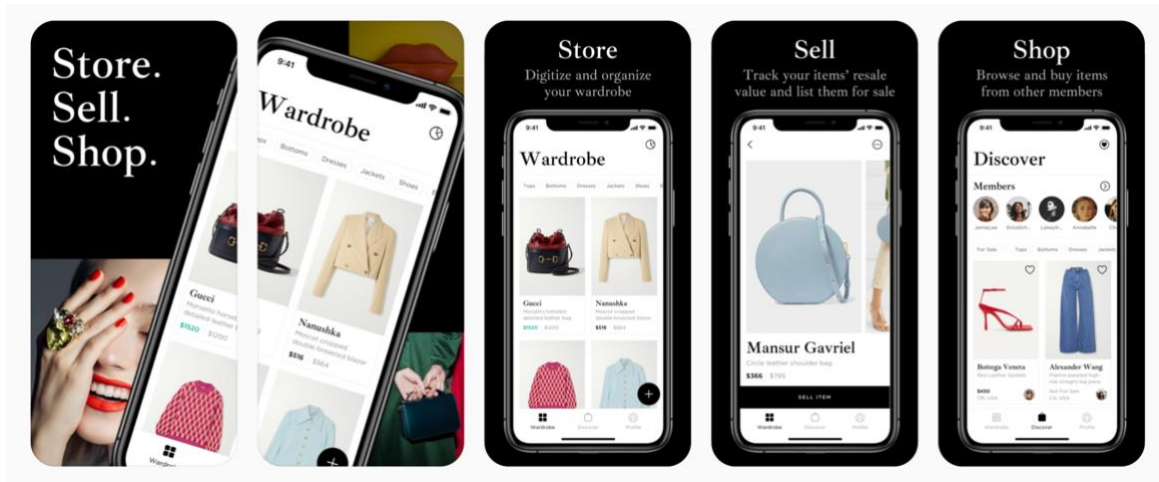
"A more sustainable fashion economy through connected wardrobes"

Strengths of the service:

- Easy way to create a digital wardrobe, without the need for hardware technologies, to improve the management of your clothes.
- Creation of a community to share outfits and styles to be inspired.

- Possibility to sell and buy second-hand clothes directly from the app, encouraging the circular economy.

Figure 56: Storey



3.1.3. Case Studies Analysis

The main results coming from the analysis of the case studies (Figure 57) are the followings:

- The traditional fashion industry players focus their services on verifying the authenticity of their products, fighting the phenomenon of counterfeiting, and improving the customer experience thorough additional digital contents. The technologies used are the QR-Codes or innovative NFC tags.
- The services offered by the apps of other players and start-ups have a different objective than the one of the traditional fashion companies. Their common main scope is to provide greater awareness to the end consumers about the sustainability of the fashion industry and the environmental impact of their habits and usage of clothes, also by applying innovative technologies such as blockchain.

Figure 57: Case studies analysis map

		Fashion Companies			Apps		
		GUCCI	STONE ISLAND	NBA		Wear Me 3 Times	Sto rey
Service Offered	Sustainable usage and habits	●	●	●	●	●	●
	Gamification	●	●	●	●	●	●
	Rating of Brands' sustainability	●	●	●	●	●	●
	Enhance customer experience	●	●	●	●	●	●
	Digital wardrobe	●	●	●	●	●	●
	Verify the authenticity	●	●	●	●	●	●
Technology applied	QR-Code technology	●	●	●	●	●	●
	NFC Tags technology	●	●	●	●	●	●
	Blockchain technology	●	●	●	●	●	●

Through the analysis carried out, it could be noted that there is a market-gap. The main fashion companies have not yet developed services linked to the trends of sustainability and the eco-use of clothes. Therefore, a service designed on these trends, in collaboration with these traditional companies, would have the possibility to be developed and to grow. This new service should focus on making available the information to the consumers to help them to make a more conscious choice and usage of the clothes, breaking down the information asymmetry of the fashion industry.

3.2. Peas Tech: Vision and Mission

Nowadays it is important to sell fashion products coming from a sustainable production, considering both the raw materials used, and the technological processes applied, to reduce the environmental impact. However, what is also needed in the market is the offering of services which provide transparency, traceability, knowledge, and awareness about the sustainable behaviour of consumers when buying and using fashion products in all their life cycles.

By exploiting this opportunity with new technologies in the market, PEAS Tech follows the underlined vision and mission:

VISION: the purpose of PEAS Tech is to provide everyone with a platform solution delivering transparent and intuitive information about the fashion product supply chain, to spread and increase awareness toward what is the “real cost” of fashion and the environmental impact each of us has in his/her daily behaviour.

MISSION: to be able to reduce the fashion environmental impact, by focusing on consumer behaviour with more aware sustainable choices and practices, longer product life cycle in the system, propensity to re-sale and vintage clothes usage, and user engagement through gamification and phygital solutions to adopt sustainable behaviours in a funny, intuitive but effective way over time.

3.3. The Idea

PEAS Tech will provide services for both B2C (the consumer market) and B2B (the companies of the fashion industry) clients. The objective of the service is to show the environmental impact caused by all life cycle stages of a wearable product of different types to the final clients, helping the users in monitoring and improving their sustainable habits about clothes purchase, usage, and disposal. Users will record their clothes on a virtual wardrobe on their smartphones using NFC tag technology on patches and labels applied on clothes. Further information about the details of the APP is presented in *Chapter 2*.

The application of this solution is focused on two main businesses:

- **WEAR ME App (B2C):** PEAS Tech will provide the possibility to users to buy clothes with NFC tags and to purchase and apply the patches, with inside the NFC tags, on their clothes, without limits of application. Users can download for free WEAR ME App and start monitoring the usage of their digitized clothes by taking advantage of all the services offered by the APP.
- **Services for private brands (B2B):** PEAS Tech will support private brands of the fashion industry to embed NFC tags inside their collections of clothes and to introduce a smartphone application that will read them. Depending on the chosen collaboration agreement, the application that will read the NFC tags could be WEAR ME App (i.e., the one for the B2C market) or also a private “closed” version of it. In the case of the “closed” version, the company will obtain its private application developed with the support of PEAS Tech.

The transparency and trustfulness of sustainable information about products' life cycle stages are guaranteed by the application of blockchain technology.

3.3.1. WEAR ME App: The App for the B2C

WEAR ME is the free application that could be downloaded, starting from 2023, from smartphone's official stores that allows users to be connected with their clothes through NFC technology. The application allows users to register clothes, to have them in a digital wardrobe, to obtain information about the environmental impact of their clothes and their daily usage as well as many other features.

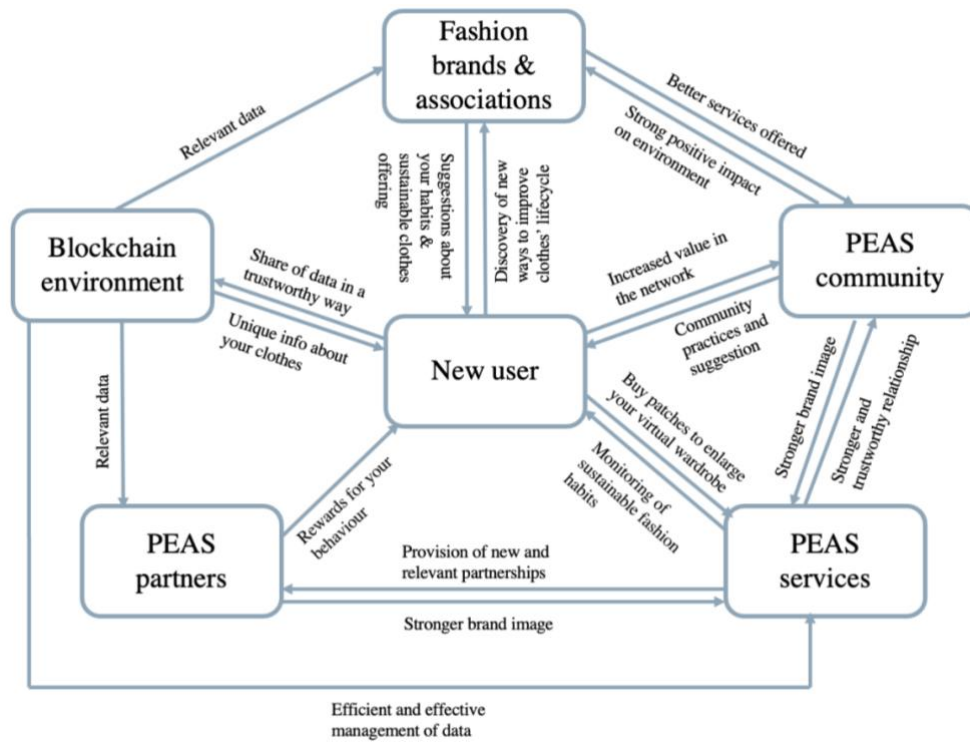
The application will be able to "read" all the clothes that contain the PEAS Tech's NFC tags, which are embedded in the Stylish Patches or in the fashion brand's clothes that contain the NFC-TAG Labels (see *Chapter 3.6.1*), starting from September 2023 which is the month of the official launch of the WEAR ME App. In this way, the user will have a single application to daily manage all its clothes of different brands that have the same technology developed by PEAS Tech.

3.3.2. WEAR ME's Service: How It Works

By downloading WEAR ME App and start using the related services, users become part of a network where the value created depends on the number of users being part of this network. Inside the WEAR ME's ecosystem, different interactions are present among different profiles, and each of them is essential to bring benefits in the services provided. Each new user entering the network has an impact over the efficiency and effectiveness of the services, with the final aim of reaching the target vision and mission defined by the company (see *Chapter 3.2*).

The more users enter the WEAR ME App's community, the stronger is the impact over sustainable fashion habits and ultimately on the environment. This is due to the strong connection between the WEAR ME App's community, PEAS Tech's partners, fashion brands who provide clothes with NFC tags, and fashion associations devoted to sustainable clothes' recycling and vintage reuse. Everything is enabled by the services provided on WEAR ME App, which are connected to the blockchain environment. The interactions and related benefits among each actor in the app ecosystem are presented in *Figure 58*.

Figure 58: B2C Users' Interactions in WEAR ME App



3.4. Governance & Organization

The organization and governance of PEAS Tech are considered similar to the one of a startup since the company was born recently and there is not yet a clear and proven business model. Therefore, it is essential to have a simple structure, not strongly hierarchical, that should be flexible and able to adapt quickly to changes. Considering these aspects, the organizational chart must be developed horizontally with few hierarchical levels. As shown in *Figure 59*, at the top it is placed the CEO who has the task of supervising the activity carried out by the company. There are two support units: Administration & Finance Department and Human Resource Department. Below there are the three units with their respective managers who deal separately with three different sectors: Marketing & Sales, App Development, Operations & Distribution.

The Marketing & Sales Unit is divided into two teams: the B2B Team and the B2C Team. This division is settled to manage the two different channels in a more effective way.

Within the B2C Team, there is a division between the B2C WEAR ME App Team which deals with the daily management of the WEAR ME App (i.e., to monitor the daily KPIs

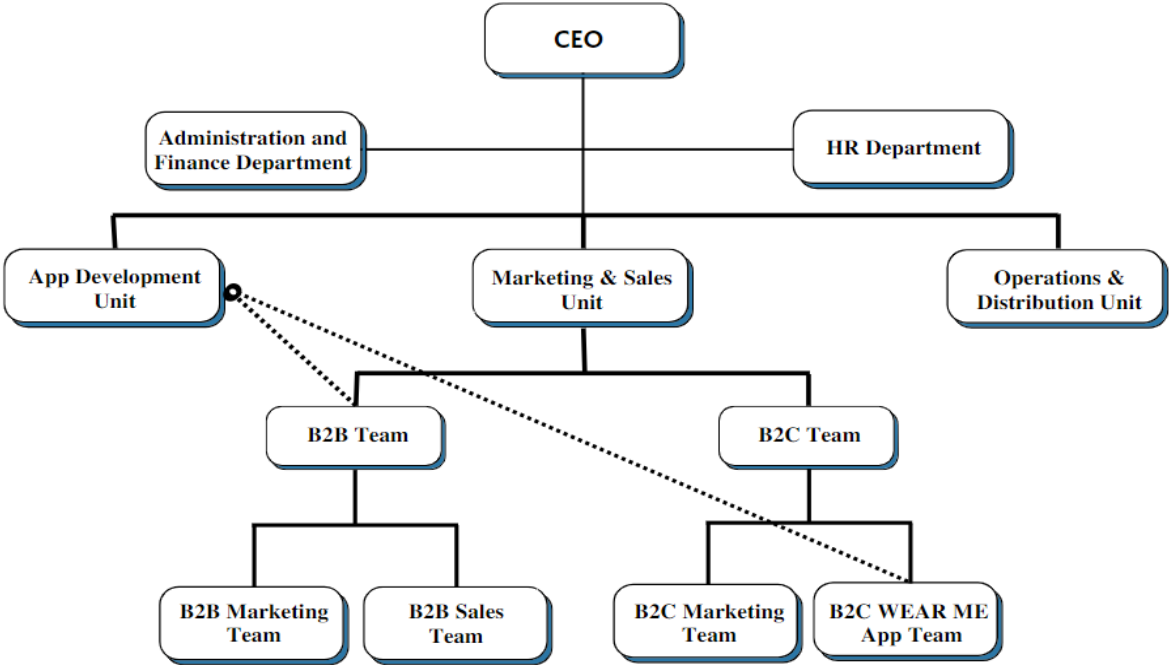
and the efficiency and usability of the App), and the B2C Marketing Team which will deal with the omnichannel marketing activities that are crucial for the B2C channel.

Within the B2B Team, there is a division between the B2B Marketing Team, which must manage the B2B marketing campaigns, and the B2B Sales Team, which must manage the corporate clients.

The App Development Unit has the task of supporting the development of the WEAR ME App and managing the relationship with the external software house NEXT for the development process (see *Chapter 3.7*). Furthermore, once the WEAR ME App has been developed in the final version with the support of the external software house, this Unit will have the task of customizing it for the fashion companies who want a “close” version of the App by supporting the B2B Team in the B2B market. In addition, the unit will support the B2C WEAR ME App Team for the maintenance and upgrading of the App.

The Operations & Distribution Unit is subdivided into two parts: production (which also incorporates the procurement activities) and distribution which oversees the logistics.

Figure 59: PEAS Tech's Organizational Chart



The horizontal organizational structure influences how the activities within PEAS Tech are carried out. For what concerns the decision-making process, this schema allows

employees greater freedom by giving them the rights to make decisions regarding their daily activities, only asking for instructions to managers in case of important issues. In this way, the decision-making process is faster and less bureaucratic. Employees will have job enrichment, a better self-motivation since they are not only driven by the manager’s command, but also by the person’s goals. Collaboration between workers will be tighter since they have the opportunity to make decisions on their daily activities and therefore to have a closer collaboration and exchange between them. Communication between departments is easier because the structure is less rigid and the number of people employed is not high, thus allowing a better sharing of information and ideas within the company. In *Table 3* it is defined the workforce that will be enrolled in each team/unit/department represented in the organization chart. The staff will be identified considering two different figures: managers who will monitor and manage the activities, and employees who will perform the operational activities.

Table 3: PEAS Tech’s Workforce

UNIT / TEAM / DEPARTMENT	Number of Managers	Number of Employees
Admin. & Fin, Department	0	1
HR Department	0	1
APP Dev. Unit	1	3
Marketing & Sales Unit	1	2
B2B Team	1	2
B2B Marketing Team	0	2
B2B Sales team	0	3
B2C Team	1	2
B2C Marketing Team	0	2
B2C WEAR ME App Team	0	2
Operations & Distr. Unit	1	5

3.5. Go-To-Market Strategy

In this section the strategy that PEAS Tech will follow to enter in the B2C and B2B markets is defined, considering the peculiar characteristics of the product offered and the startup environment.

3.5.1. The Timeline

The timeline of the go-to-market strategy is structured as follows:

- **Product development:** during 2022 the products and services are designed and developed with the support of the partner companies. PEAS Tech will collaborate with 1trueId for the development of the blockchain system. The company will collaborate with NEXT for the development and prototyping of the WEAR ME App while it will collaborate with MOOD and WRÅD for the definition of the patches' features, styles, and production planning.
- **Entry into the B2B market:** starting from January 2023 PEAS Tech will begin to offer its services to companies of the fashion industry by giving them the possibility to embed NFC tags on their collections, and planning the integration of their clothes in the WEAR ME App or, depending on the type of contract stipulated, the design of a "closed" private version of the App.
- **Entry into the B2C market:** from September 2023 PEAS Tech will officially launch the WEAR ME App in the B2C market and will give to customers the possibility to purchase the Stylish Patches to digitize their clothes and have them on the App.

The growth plan is based on the use of cash flows and capabilities acquired from the B2B branch to finance and develop the B2C branch. This will be key to achieve scalability and the critical mass needed to support the project's growth plan.

3.5.2. Growth Strategy

The actual situation of the strategy development is based on an already built blockchain platform, with the data to be managed and shared already defined. Also, the WEAR ME App has already been developed in an Alpha version, to be sent to the Software House for the first prototype development. What is needed now is to build awareness in both B2B and B2C markets about this new service, to let consumers and companies be closer to the new mechanism of NFC tags. To easily spread this concept in the market and avoid big investments with low returns and high risk, the strategy

is focused on starting with relevant collaborations with strong fashion brands (B2B market), who can sell their clothes with already the NFC-TAG Labels applied and also let the users to download the brand's private "closed" version of the app. In this case, the fashion company will introduce, with the direct support of PEAS Tech, a suitable app to be used for its clothes, that will create awareness in the market about the new concept and will facilitate the spread of knowledge about it since it is prompted by an already well-known brand. However, building such collaborations requires a lot of time, and brands willing to embed the NFC-TAG Labels in their products cannot start selling them in the market right after the contract is signed, because the fashion industry has clear and specific deadlines for the drop of new clothing collections: each year there are two seasons, Fall-Winter and Spring-Summer, for which each brand has to plan in advance the collection development, sales campaign, production, and delivery to the warehouses. The time required to plan each collection can vary up to 18 months before the start of the season. For this reason, as soon as a brand signs the contract with PEAS Tech, at least one year is needed to sell the clothes with NFC-TAG Labels in the market. To manage this criticality, PEAS Tech will be paid in advance for the signing of the contract, as a deposit and insurance for the success of the collaboration. In this way, brands collaborating with PEAS can already start talking about this new product in the market, to raise awareness and create hype until the collection is released, and thanks to the revenues generated from the signed contracts PEAS Tech will have the possibility to accelerate the development of the WEAR ME App and the Stylish Patches to be applied to all types of clothes. Indeed, the next step of the strategy would be of being ready to sell the PEAS Tech's Stylish Patches in the B2C market after the B2B brand companies created awareness in the market about the introduction of their private app and/or their clothes with NFC-TAG Labels applied on. Defining a specific time for the B2B partners to launch their own services is difficult because it depends on the specific contracts stipulated, but what is relevant for PEAS Tech is that at least they can create awareness in the market about the new services thanks to their brand power. In this, way, users will be invited by the partner to discover the new service, will understand the new technology and will be more incentivized in the future in buying the PEAS Tech's Stylish Patches to enter in the network, thus overcoming the critical mass.

This growth strategy must be properly supported by a marketing strategy because the final aim is to let the service spread among the whole market. For example, to keep the "hype" about the service it will be important to realize new collaborations with other fashion brands, as well as to constantly update and improve the WEAR ME App

features because on one side it is important to get on board new customers, but on the other side it is also important to keep the ones already present in the network loyal.

A growth strategy must be properly drafted especially in the initial phase of product launch because the current offering is based on a new and highly innovative technology (the NFC tags) whose value strongly depends on network effects, i.e., the value of the product to one user increases as more users adopt the product. Having network effects impacts the short-term performance objective of the company and the dynamics of market competitiveness. It is essential to maximize the installed base of users rapidly, to reach the critical mass and let the product become dominant in the market, thus creating high switching costs for users. Since the product offered by PEAS Tech is new in the market, the company could become the winner-take-all in the market and strength the lock-in effect for customers. When dealing with network effects, the value of the product is not only the intrinsic one but also the extrinsic one, made of benefits coming from the size of the installed base and the availability of complementary and compatible products. For this reason, marketing strategies designed to influence customer expectations are critical in the context of network effects.

Given these characteristics of the product to be launched in a market around network effects, different strategies must be implemented to maximize the performance and growth of the offering in the market in the initial stages and over time, shown in *Figure 60*.

Figure 60: Growth Strategy Features



- **New product performance:** as soon as awareness about the new technology of NFC tags will be built in the market, thanks to the fashion brands that collaborate with PEAS Tech, it is essential to create and rapidly increase the size of the installed base of customers that are used to using the NFC tags and the WEAR ME App. In this way, the extrinsic value will be enhanced, thus increasing customer satisfaction. Only when a large installed base will be defined, PEAS Tech will have the possibility to charge a higher price that customers will be willing to pay, for example for new Stylish Patches in collaboration with a famous brand, because of the lock-in effect and the high switching costs, thus resulting in a higher long-term profit margin for the company.
- **Order of entry:** PEAS Tech will be the first mover in this new B2C market, presenting a product with a highly innovative technology that is unknown to potential users. This condition brings two main advantages to the company: firstly, a product-based advantage because of the strong supply base and volume of the product, enhanced by economies of scale and learning curve effects. The technology leadership due to the blockchain environment and WEAR ME App built, increases barriers to entry for other possible competitors. Secondly, a consumer-based advantage is highly beneficial for pioneers because PEAS Tech' consumers would develop stable preferences for the product offered, especially in this case with novel and high-technology products. The uncertainty and low level of knowledge about the technology facilitates the level of loyalty of customers to PEAS Tech's brand, which would be the only one they know offering this type of product. However, in dealing with network effects, the order of entry advantages is overcome by the importance of switching costs and customer preference formation. For this reason, PEAS Tech should not just leverage on the order of entry advantages but should focus on the positive feedback effects derived from the development of a large installed base, to guarantee a high level of performance in the long term.
- **Product advantage strategy:** because of network effects, the NFC tags and related Stylish Patches are valued also considering the extrinsic value, which depends on the installed base in the network. For this reason, especially at the early stage of the product life cycle, the value of the product in the network should be enhanced not only considering the internal one but also the external one.

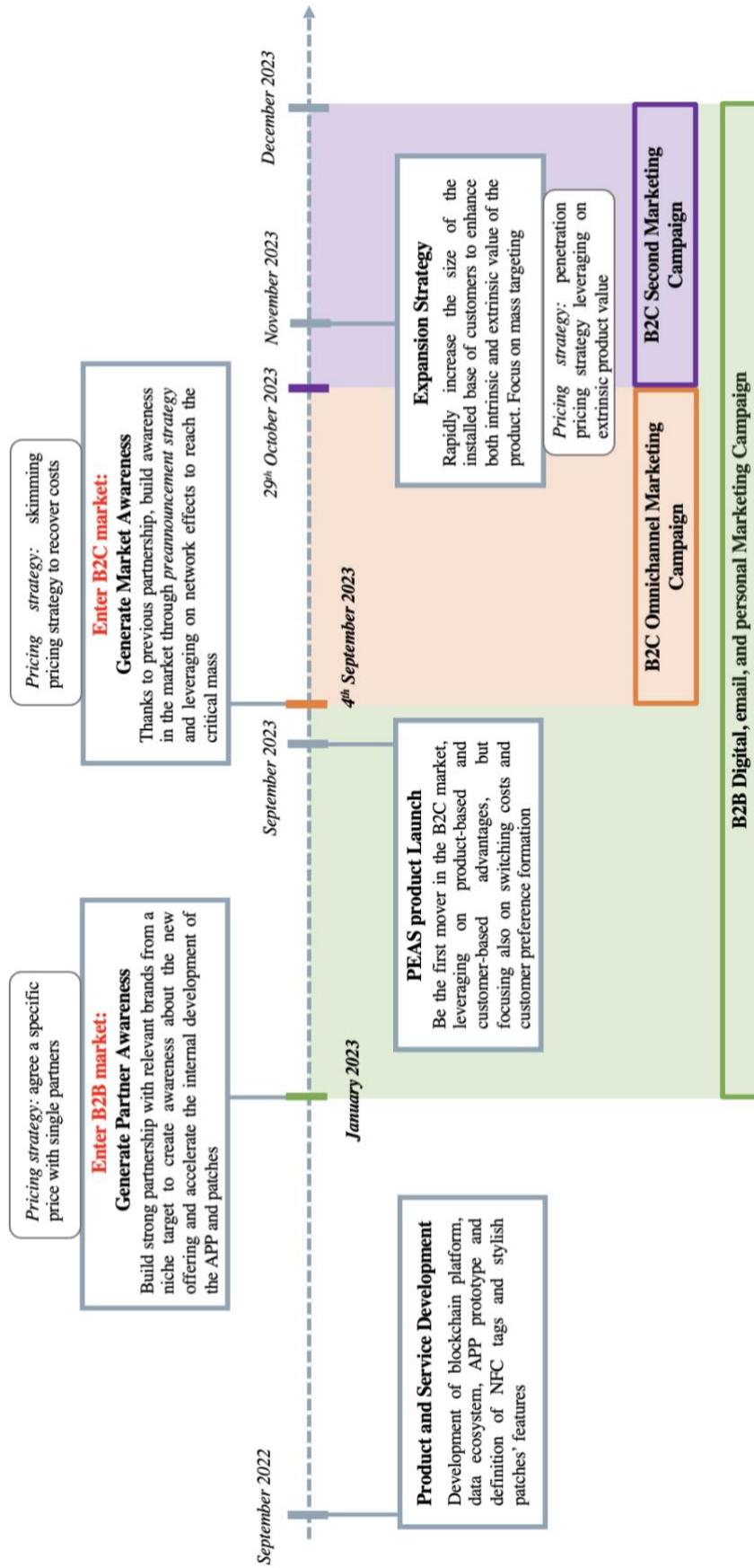
- **Pricing strategy:** pricing strategy is peculiar in this situation and varies over time to maximize the product performance and the profitability of the company in both the short term and long term. In the B2B market, it is difficult to develop a unique pricing strategy because it depends on the specific contracts stipulated with each partner. For what regards the B2C market instead, being an innovative and technology-based product, in the very initial stage of product launch the company can rely on a skimming pricing strategy, by setting a high price to recover the investment costs, while then decreasing prices to reach broader markets. In this way, thanks to the high level of innovativeness and lack of knowledge about the technology, consumers will accept the high price as a source of information to judge the product quality. However, because of network effects, the short-term objective of the company should not be the one of making profits but of maximizing the installed base of the launched product quickly, following a penetration pricing strategy that starts with a price-performance advantage and only after the establishment of the installed base higher prices can be charged. In the case of PEAS Tech, a mix of the two strategies can be applied: in the very early stage of the launch of the product, in both collaboration with fashion brands to build awareness and the first period of market awareness, a skimming pricing strategy is followed. As soon as awareness in the market is built, the company will focus on building a large installed base of customers by implementing the penetration pricing strategy, leveraging on extrinsic product value.
- **Bundling strategy:** having network effects, PEAS Tech would benefit from many more advantages when implementing a bundling strategy in the stage of expansion. By offering to customers two or more Stylish Patches for a single price, the company will reduce customers' risk perception of the new product due to the new technology. It will increase its competitive advantage via the multiplier effect (incremental volume of a primary product's sales that the bundle's complementary products generate), and it will reinforce positive feedbacks for both the primary product and the compatible ancillary products, thus increasing demand for both.
- **Targeting strategy:** as for the pricing strategy, also for the targeting strategy different solutions must be applied in different periods of growth strategy. Because of innovative high-tech products offered, PEAS Tech should start by targeting only a niche of B2B clients, for example, the one which is made by the brands which want to innovate their offer thus with whom start a collaboration

to raise awareness about the new product. These brands, that PEAS Tech will collaborate with, want to reach a specific target of users, for example, the tech-savvy with a penchant for the responsible use of their clothes. Right after awareness is built, the company should then focus on mass targeting in the B2C market to reach the critical mass needed and exploit network effects leveraging on the creation of extrinsic value for customers.

- **Preannouncement strategy:** as said before, also marketing strategies are essential for the sale of the Stylish Patches in the B2C market, because they represent a new product introduction whose preannouncing is essential to influence potential customers and build buyer curiosity and interest. Network effects reinforce even more the effectiveness of preemptive announcements. In the case of PEAS Tech, the preannouncement strategy for the B2C market will start with a specific omnichannel marketing campaign (see *Chapter 4.4*), focused on building awareness in the market about the new product and raising interest and consideration, to let the company start getting revenues. For the B2B market, a specific marketing campaign will be drafted as well, focused on digital, email, and personal marketing actions toward potential partners (see *Chapter 4.2*).
- **Distribution strategy:** the Stylish Patches' distribution plan is fundamental for the growth of the PEAS Tech. For this purpose, the Stylish Patches in the initial phase must be sold by selected retailers to associate the PEAS Tech with brands linked to the sphere of sustainability and responsible fashion. Subsequently, the patches can be purchased more easily in physical channels (in shops and events) and above all through digital channels (e.g., on Amazon). The patch's distribution plan must be closely linked to the omnichannel marketing campaigns such as those with artists and or events.

To sum up, the timeline and growth strategy of PEAS Tech is resumed in *Figure 61*.

Figure 61: PEAS Tech Growth Strategy



3.6. Products & Technology Behind PEAS Tech

In this section of the business plan the products that PEAS Tech will offer to its clients are presented, together with the explanation of the technology behind them.

3.6.1. The Patches

A fundamental aspect of the PEAS Tech's project is the insertion of NFC tags in the clothes to allow the exchange of data and information with the user's smartphone, by easily "tapping" the NFC tag. To do this, several alternatives are available according to the different channels targeted, shown in *Figure 62*:

- **Stylish Patches.** This is a solution designed for the B2C market where the user can buy the Stylish Patches, with inside the NFC tag, to digitalize his "normal" clothes thus having the possibility to have the access to the features of the WEAR ME App. One possible way to increase the diffusion is through partnerships with stylists and designers who can design and advertise the Stylish Patches. The sale of the Stylish Patches will start in September 2023 with the launch of the WEAR ME App.
- **NFC-TAG Labels.** This solution is designed for the B2B market where the fashion brands can collaborate with PEAS Tech and sell their clothes with a label containing the NFC tag inside. In this way, the end-user could buy clothes with inside the technology useful to communicate with the WEAR ME App or the private "close" brand's version of the app.

It is important to notice that in any case WEAR ME App will be able to read the NFC tags embed both in the Stylish Patches, purchased by the users, and in the NFC-TAG Labels that are sewn by the fashion brands.

Figure 62: The PEAS Tech's patches



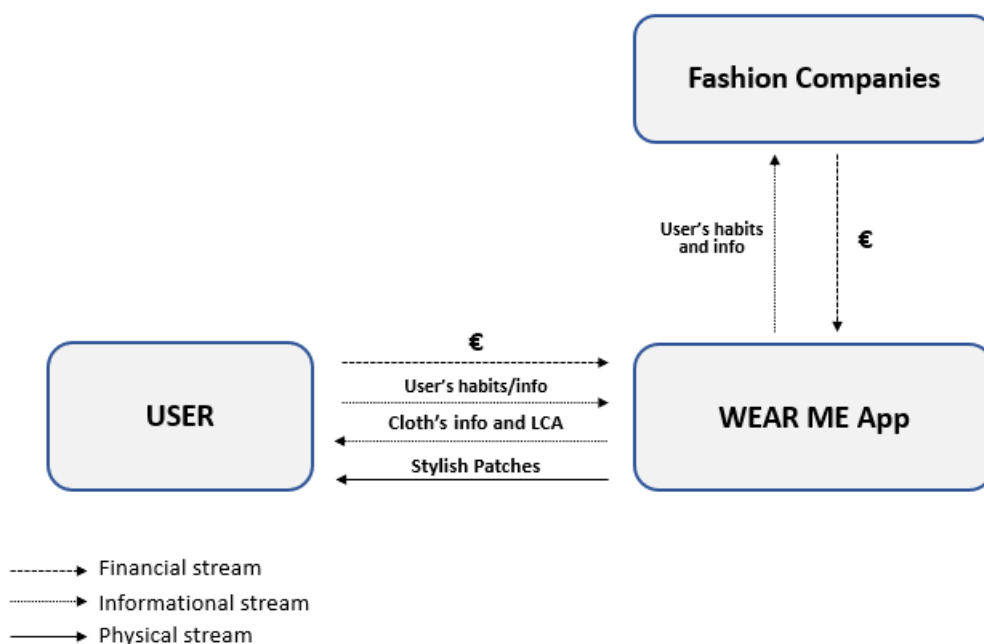
3.6.2. PEAS Tech's System

The PEAS Tech project is based on a system that operates simultaneously on 2 users bases: one side is represented by the end-customers who use the WEAR ME App, buy the digitalized clothes or the Stylish Patches, that contain the NFC tags, while the other is represented by the fashion companies that can introduce the Peas Tech's NFC tags in their collections through the NFC-TAG Labels, thus innovating their product lines.

3.6.3. WEAR ME App's Platform System

WEAR ME App is structured as an orthogonal two-sided platform (Figure 64). On the upper side, there are the fashion companies that pay to enter the system to have the access to the user's habits and info acquired by the WEAR ME App. The left side is represented by the users who will buy the Stylish Patches to digitalize their clothes and get more information about them (the LCA and other info about the cloth). The PEAS Tech's platform will be able to have access to their data and to sell them to fashion companies, thus creating a data trading model platform. The two sides of the platform are the (1) users, who download and use the WEAR ME App, and (2) companies that collaborate with PEAS Tech who can have the access to the data about users' habits and info from their accounts on WEAR ME App, thus gaining important insights into customers' habits and information.

Figure 63: WEAR ME App's Platform System



The industry where PEAS Tech will operate to sell to users the Stylish Patches is considered a network industry, offering network goods, i.e., goods whose value increases with the number of their current (and future) users. Being network goods, their value is not only an intrinsic one but also extrinsic, which is the value depending on the number of users using that good. Network goods are subject to network externalities, that are generated by new users using the network good. In case of the WEAR ME App, every new user increases the value generated by the service, thus causing positive externalities on others. The more users download and use the App, the more the services provided will be improved and effective for the needs of the users, and the impact on the whole society will directly affect the environmental behaviour for both users and companies.

In the case of network industries, it is essential to reach a certain critical mass so that the service provided can be effectively valuable for the users entering the network. When the number of users reaches the level of critical mass, the network succeeds as each user can attract further users. Indeed, an essential condition for PEAS Tech to succeed is to attract the more users as possible in the market, to maximize the effects and the benefits of the offering provided. The problem to reach the critical mass is defined as the startup problem, where the company must convince users to start buying its goods when none is using the network good. In the case of PEAS Tech, the company can solve the startup problem by charging low prices in the early stages of product launch, by breeding users' expectations that the network will grow large, thanks to the close partnership with famous brands, and by offering complementary products/services such as the patches themselves, to invite users to download and start to use the App. As soon as critical mass is reached, the market is locked in the network good irrespectively of its intrinsic value, and switching costs increase thanks to the strength of network externalities, the quality and price of the product and learning costs.

Considering the overall B2C market where PEAS Tech will work, not only the network of users should be properly drafted and controlled but also the overall platform industry where also other companies will interact in the system and get benefits from it. Platforms' value depends on the size of both groups of users and companies, which in the case of Peas Tech is given by both:

- **Cross-side network externalities:** the value of a platform for a participant of one group increases as participants of other groups increase. The more companies will collaborate in the platform for the provision of patches (the NFC-TAG Labels) to be applied on their clothes, the more users will be

incentivized in buy their clothes and use the App. Vice versa, the more users will use the App, the more data PEAS Tech will be able to collect and therefore have more value to offer to companies that enter in the platform.

- **Same-side network externalities:** the value of a platform for a participant of one group increases as participants of the same group increase. The more users enter the platform to use the WEAR ME App, the more other users will be invited in joining it because of the community creation and related benefits provided by the service.

Operating in a platform industry, PEAS Tech must face two main issues:

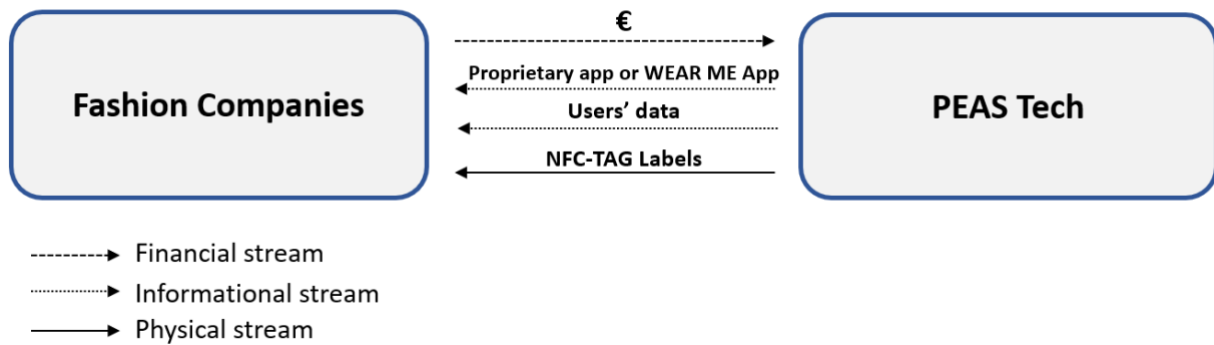
- **Chicken-egg problem:** in the first phase of the product launch, at the offset of the platform, the challenge is to bring both sides of the platform on board, thus attracting them simultaneously. Users cannot start using the WEAR ME App if there are no companies providing clothes with NFC-TAG Labels applied on or if Stylish Patches are not sold apart, and on the other side, companies cannot enter the platform to gather users' data if no users are using the WEAR ME App. To solve this issue, it is essential to find the firsts pilot companies that will join the platform and on the other hand, make the Stylish Patches available and diffused as much as possible for users.
- **Achieve balanced growth:** when the critical mass is reached for both sides of the platform, success on the market is reached when there's balanced growth from participants on both sides with new users that will buy the Stylish Patches for their clothes joining the App, and on the other side new companies interested by the service and the data gathered.

3.6.4. B2B System

In the B2B, the companies pay to obtain the support of PEAS Tech in introducing in their collections the NFC-TAG Labels, to integrate their clothes into WEAR ME App and to obtain their private version of the app. The companies can additionally buy the users' data that PEAS Tech obtains through the WEAR ME App (*Figure 65*).

The two sides of the system are (1) the fashion companies that pay PEAS Tech to have their "close" version of the app or the possibility to join the WEAR ME App, and the digitalization of their collections through Peas Tech's technology and (2) PEAS Tech that will support the fashion companies to introduce the NFC technology in their collections, the introduction of the app and the sale of the users' data.

Figure 64: B2B System Map



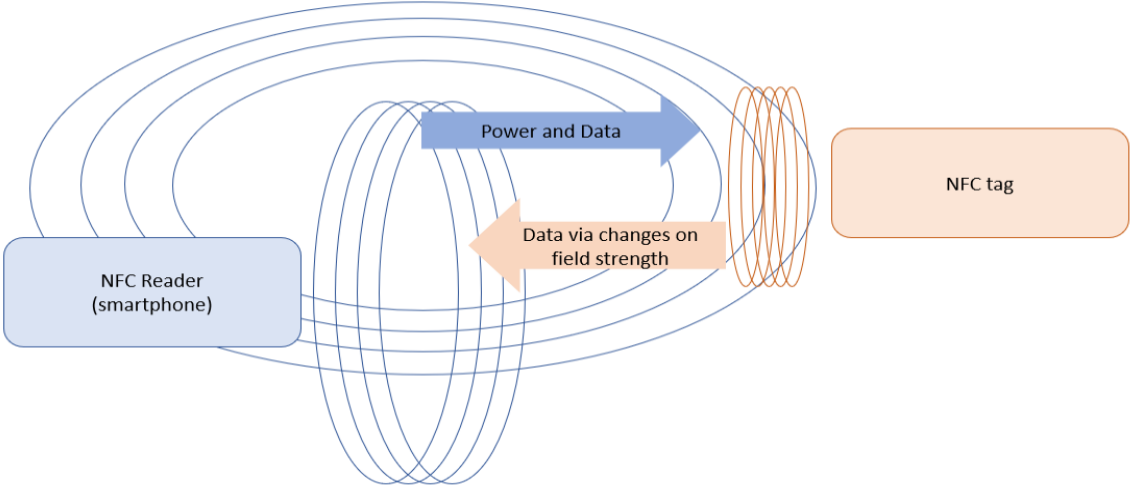
3.6.5. NFC Technology

NFC (Near Field Communication) is a technology that allows two devices to communicate wirelessly. The technology can be embedded in a small tag to facilitate data transfer between electronic devices. This technology was enabled for the first time in a phone by Nokia in 2006 but only in recent years it raised its diffusion, especially for contactless payments (+150% between March 2019 and June 2020 only in the US). The diffusion of this technology will continue to grow in the following years with more than 1.6 billion of NFC-enabled smartphones by 2024. NFC devices have a one- and two-way communication capability, which gives the NFC technology an upper hand in use cases where transactions are dependent on data from two devices (e.g., card payments) enhancing the communication capabilities between devices.

NFC tags work like any other RFID tag to communicate over radio waves but with a smaller range of distance between the devices (a few centimetres), thus giving higher precision and security. As shown in Figure 66, the NFC tag, and the NFC reader exchange information in NFC data exchange format. An NFC tag sends radio waves to activate the antenna in a receiving device. The recipient validates the information to complete the information exchange. This technology is very easy to use as it does not require manual device discovery and synchronization (as in the case of Bluetooth technology); therefore, is excellent for applications that improve the user experience. NFC tags work without a battery and draw power from another device, such as, in the case of PEAS Tech, the user's smartphone. An NFC reader connects to only one NFC tag at a time, minimizing accidental transactions. For these reasons, this technology allows the sharing of data and information between 2 devices in a very swift and

intuitive way through a simple "tap" by letting touch the two devices, in this case the user's smartphone and the NFC tag on the cloth.

Figure 65: NFC tag system



3.6.6. Back-End Technology of the PEAS Tech's App

The key aspect to consider is that the back-end processes of the WEAR ME App, and the "closed" version of this app, are based on a distributed database enabled by blockchain technology. Therefore, the application is classified as a Decentralized-APP.

Decentralized applications, like traditional apps, rely on Blockchain platforms and their distributed network to achieve guarantees of non-censurability and transparency. This is a fundamental aspect that characterizes this application since, in this way, it is guaranteed to the user the transparency and truthfulness of the information that he obtains about the clothing that he "is tapping". Indeed, through the use of blockchain technology the data provided to the users are always verified by the system and they cannot be modified by external actors. Furthermore, the trust of the information is not guaranteed anymore by an external actor, which could modify them, but it is the blockchain system itself with its cryptographic algorithms that guarantee the trust and truthfulness, so nobody can modify them. To summarize, the benefits of decentralized apps are that:

- They are incensurable.
- The code is inherently open source.
- They are globally accessible.
- They are permissionless, anyone can create them and use them.

- They are interoperable and composable, they can be combined to create other DApps.
- Trust shifts from the developer to the code.

3.6.7. Blockchain Technology

The blockchain technology is used by PEAS Tech to register the users' data, information, and habits of the WEAR ME App and the private "closed" version of this app for fashion companies.

The blockchain is a digital ledger containing information and data. It is structured as a chain of blocks containing transactions where consensus is distributed on all nodes of the network. Each time a new block of information is entered into the blockchain, the validators must validate the entire process and if the process is successful, the new information is inserted into the chain and all those who have access can see it. Any data stored on the blockchain is unable to be modified. Therefore, the information is distributed on a distributed decentralized ledger where it is only possible to add information (append-only) according to the shared rules of the platform that is used. Using cryptography systems and consensus algorithms, it is possible to obtain the approval of the transactions in the absence of a central authority with a common source of truth that guarantees trust within the whole system.

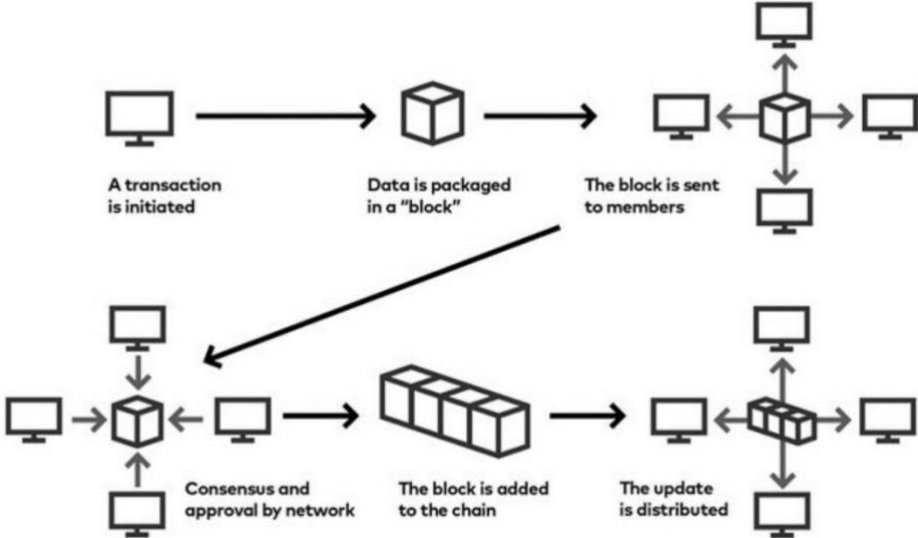
Therefore, this technology allows a rapid sharing of information between all terminals that have access to the system, and, above all, the data inserted in the blockchain can always be verified and cannot be modified once entered. This ensures a high level of transparency and truthfulness of the information that are shared between the various users of the system. In *Figure 67* there is an example of how the adding of a new piece of information works in a blockchain system.

The blockchain environment developed by 1TrueID company for PEAS Tech was built from scratch, to meet all the requirements of the company:

- Cheap functioning: exchanging information on the ledger cannot be costly, otherwise it would be impossible to frequently use the service for all PEAS clients.
- Public ecosystem: everyone can become a node of the blockchain and can obtain the right of verifying the information, without the need of an intermediary.
- Fast service: waiting time for each transaction to be completed must be low, to allow a high number of possible transactions to be made.

Moreover, given the aim of the blockchain to deliver services for PEAS Tech related to sustainability, the ledger itself had to be sustainable, with low energy consumption.

Figure 66: How Blockchain Works



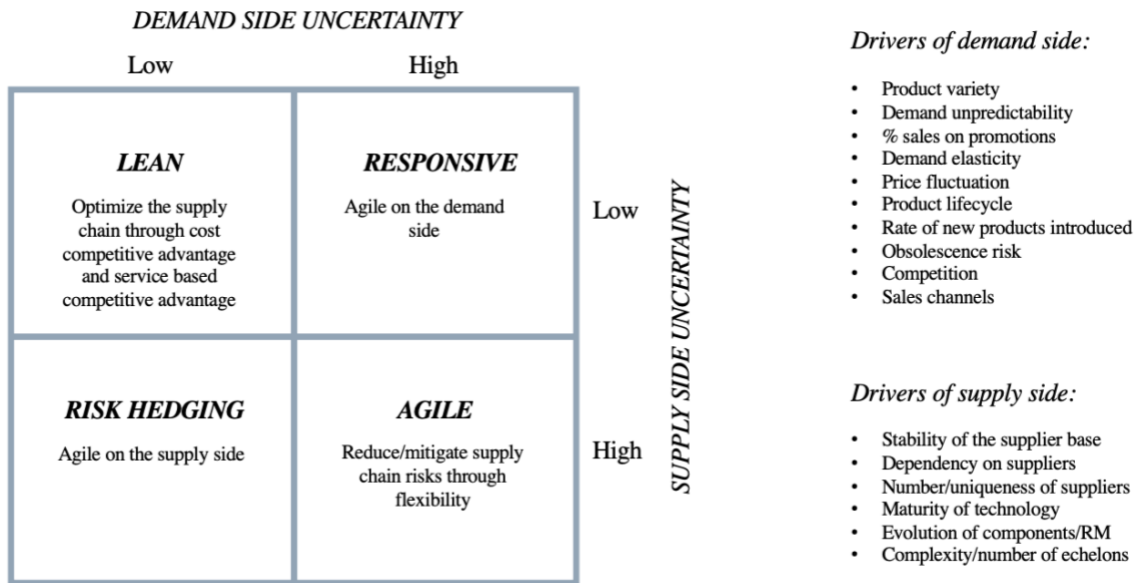
3.7. Operations & Supply Chain Management

The critical steps of the supply chain of the products/services provided by PEAS Tech are the following:

- New Product/Service Development.
- Materials Production/Procurement.
- Product Manufacturing.
- Inventory Management.
- Logistics.

To properly draft the supply chain profile of the company, both demand-side uncertainty and supply-side uncertainty are analysed using the Lee’s Model, a supply chain strategic approach, shown in *Figure 68*.

Figure 67: Lee's Model



- **Demand-side uncertainty:** the complexity of the product/service offered is considered medium-low for the development of the blockchain environment and related technology behind the application while regarding the NFC tags, the Stylish Patches, and the NFC-TAG Labels there is low complexity and low variety in the products. The demand for these products can be considered with low unpredictability because thanks to the monitoring of the WEAR ME App downloads PEAS Tech can draft accurate predictions about the demand for Stylish Patches and NFC tags required. Regarding the NFG-TAG Labels of the B2B market, the unpredictability is low thanks to the contracts stipulated with the fashion companies in which the quantities required are defined in advance. For what regards the demand download of the WEAR ME App itself, it is more unpredictable but easily controllable, thus uncertainty can be considered low, even if the new service is unknown in the market and thus it is difficult to predict the overall demand required. The product life cycle of the NFC patches/labels is the same as the one of the clothes on which they will be applied on, with the same frequency of purchases and disposal, and it is monitored by the App. Competition in the market is currently low, because of the innovativeness of the service, but in the future it could create very high competitiveness because of the creation of a new market where many players can enter and there are no incumbents already stable. Overall, demand-side uncertainty is low.

- **Supply-side uncertainty:** fashion industry has a high variability and unpredictability in the supply side, given the high number of suppliers who can vary over time depending on changes in the demand of the market, new collections, and new developments of the campaigns. This uncertainty is thus focused on the production of Stylish Patches for clothes, while for the technology behind the application and NFC tags it is easier to find stable suppliers with whom establish close relationships and partnerships. However, the dependency on suppliers is very high, also given the number of outsourcing services needed by PEAS Tech to develop the related products and services. The level of maturity of the technology is pretty high, given the continuous evolution and stabilization in the market of blockchain technology, but it is not totally mature and thus the level of uncertainty is still present. Suppliers themselves must be chosen very carefully, to guarantee a certain level of uniqueness of the products, high quality and sustainability standards required. Overall, supply-side uncertainty is medium-high.

Given the low demand side uncertainty and the medium-high supply side uncertainty, the supply chain profile of the company and the related supply chain strategy should be risk hedging, thus being agile on the supply side to reduce and mitigate supply chain risks for flexibility and minimize the costs by also increasing the revenues and profitability of the company. The supply chain strategy, however, varies depending on the type of product/service considered (blockchain technology, WEAR ME App, NFC-TAG Labels, Stylish Patches), thus a deeper analysis on the supply chain operations of the company is analysed.

3.7.1. New Product/Service Development

The offering of PEAS Tech is based on the services provided by the new platform (i.e., the WEAR ME App and the private version for fashion brands) allowing users to monitor their sustainable behaviour with their clothes thanks to the gamification tools and sustainable suggestions provided in their own profile. To enter the platform and become part of this network, it is essential not only to design and build the platform structure and technology needed, but also to provide the related NFC tags to be applied on the clothes. The NFC patches and labels must be properly designed and industrialized, thus also considering the technology behind, the blockchain environment.

WEAR ME App

The WEAR ME App will be designed and developed with the support of an external software house, NEXT company, basing the features on the internally developed Alpha Version (*Chapter 2*). The main reasons related to the outsourcing decision are:

- Shorter development time since the processes of designing will be outsourced to a company with expertise in this field and therefore it is possible to have the final application in less time than developing it totally internally.
- Higher final quality and reliability of the application as PEAS Tech will rely on the best practices of the contractor company. The contractor company will support the company also in the future maintenance and improvement of the App.
- Lower capital expenditure for PEAS Tech which will not have to internally invest time and resources in developing the necessary capabilities and skills required.
- Take advantage of the ability of the external software house to integrate the app's data with the Blockchain system, thus creating a Decentralized App.

The development process, done in collaboration with the external software house NEXT, will be coordinated and guided by the App Development Unit of PEAS Tech.

Blockchain Environment

The blockchain environment has been already developed by 1TrueID company, an open and smart blockchain developer specialized in the fashion supply chain. Blockchain development is a core and essential part of the PEAS Tech offering, responsible for the efficiency and effectiveness of the services provided. Thus, it is fundamental for the company to properly draft the right strategy to exploit the competitive advantage and leverage on core competences and skills in a trust-based partner relationship to avoid knowledge spill over.

NFC-TAG Labels

This new product will be developed internally for fashion brands interested in embedding, in a label, the NFC technology of PEAS Tech. Since this product is not complex in the designing, PEAS Tech will insert inside this label the physical NFC tag that then will be sewn on the fashion brand garment.

Stylish Patches

The Stylish Patches consist in a series of collections of patches that will be released in the B2C market. Inside them, there will be the NFC tag, as in the case of NFC-TAG Labels for the B2B market.

These patches will be designed directly by PEAS Tech in collaboration with MOOD and WRÅD which are companies specialized in services for clothes production and design. A special collection of Stylish Patches will be designed and developed by famous stylists and designers in the fashion industry who will sponsor them to create word of mouth and attract the attention of the market.

To resume, the strategy chosen for each new product/service development is shown in *Table 4*:

Table 4: New Product/Service Development Strategy

PRODUCT	STRATEGY	SUPPLIER/PARTNER	ADVANTAGE
WEAR ME App	Externally developed	NEXT Software house	Shorter development time, higher quality, low CAPEX
Blockchain	Externally developed	1TrueID company	Close and trustful relationship, keep knowledge and core features internally avoiding spill over
NFC-TAG Labels	Internally developed	-	Total integration and control of the design process
Stylish Patches	Internally developed in collaboration	MOOD and WRÅD company, stylists, and designers	Word of mouth, sponsorship, high-quality of design

3.7.2. Materials Production/Procurement

After the first design and development of the products and services needed to deliver the PEAS Tech offering, the next step is to define the material production or procurement, to move to the final manufacturing of the products to be sold in the market. The products that must be produced are the App, the NFC tags and the related

NFC-TAG Labels and Stylish Patches. Each of them has specific features and conditions to be considered to properly manage the supply chain process.

WEAR ME App

The creation of the final version of the WEAR ME App will be entrusted to the external software house NEXT for development. The App Development Unit will have a close collaboration with the external software house, to guide the development and to reach the deadlines settled (i.e., WEAR ME App should be developed by June 2023 for the official launch in September 2023).

NFC Tags

The NFC tags will be produced by external suppliers, thus there's no need for PEAS Tech to search for raw materials required to develop these components.

Stylish Patches and NFC-TAG Labels

The materials for the Stylish Patches and the NFC-TAG Labels will be purchased from first-level specialized suppliers who will be able to supply PEAS Tech with top-quality materials. In particular, these types of fabrics are indispensable for the creation of the Stylish Patches collections. The sourcing strategy is to establish tight relationships with the main Italian companies that can guarantee the finest quality for the fabrics. Relying on specialized suppliers is essential to obtain, with a short lead time, the different types of fabrics and colours that allow the creation of the patches designed by PEAS Tech. The supply chain must be structured as efficiently as possible to integrate the production with the procurement from external suppliers. To design and produce the patches following to the new market's requests, it is essential to collaborate and share information with these suppliers about the future collections that will be released in the next 3-6 months. In this way, the supply chain can be aligned with the needs of PEAS Tech, always guaranteeing the same quality, lead time, and variety of materials.

Being a project focused on sustainability, the material procurement for the creation of the patches must be sustainable, thus considering procurement of textile raw materials that do not pollute the environment, pose any human health-related issues and in no way violate the social rights of employees working in these production units.

The raw material selection, considering the fabrics needed to create the patches, is essential in the design phase and crucial for the fashion industry, given the peak-season rush, last-minute changes in size or style which impact the lead time. For this reason, it is important to properly select manufacturers who can face this variability in

the supply chain while keeping attention to the sustainable characteristics of sourcing and purchasing practices.

The materials’ production/procurement strategy for each product is shown in *Table 5*:

Table 5: Materials’ Production/Procurement Strategy

MATERIALS FOR	MANUFACTURING	SOURCING	DISTRIBUTION
WEAR ME APP	Outsourcing	Close collaboration of continuous information and feedback sharing	-
Stylish patches & NFC-TAG Labels	Outsourcing	Critical materials of the finest quality from areas of excellence, sustainable products, with established relationships and collaboration	Distribution channel control to guarantee availability and variety

3.7.3. Product Manufacturing

Independently of the strategy chosen for the production and procurement of the material required, the final product is then internally or externally manufactured to be ready to be sold in the market. This choice has strategic implications over the company’s performance because it is strictly related to the efficiency and effectiveness of the realization of the final products, which are the core of the PEAS Tech’s offering and the main source of revenues. As for material production and procurement, also for product manufacturing the only products considered are the App, the NFC tags and the related NFC-TAG Labels and Stylish Patches.

WEAR ME App

The App development will be outsourced to an external software house (NEXT), that will be supervised and supported by the App Development Unit.

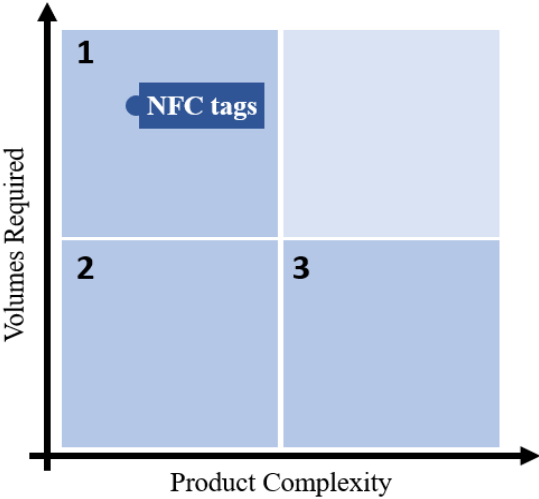
Once the development and presentation on the market of the WEAR ME App has ended in September 2023, the external software house will have the task of supporting the PEAS Tech’s App Development Unit and B2C WEAR ME App Team in maintaining

the App, fixing the bugs, and working on the improvement with the subsequent versions.

NFC tags

The manufacturing of the NFC tags could be done internally, to protect Peas Tech’s qualified knowledge about the development of this type of technology, thus avoiding the risk to be copied by potential competitors and let spill over the critical competencies needed to keep a competitive advantage in the market. However, considering the big volumes of NFC tags needed to be produced in the long-term performance of the company, the outsourcing of the manufacturing to external partners is the optimal solution, thanks also to the low complexity of the technology and processes needed (Position 1 in *Figure 69*). The NFC tags it is not a complex technological product; thus, it is more convenient to outsource the production of this hardware component to third parties by relying, for example, on one of the many Asian players that produce them in large quantities at low prices exploiting their economies of scale. Given the nature of the component, the sourcing strategy is to order them in large quantities and choose each time the suppliers that guarantee the lowest cost, thus relying on spot transactions.

Figure 68: Complexity - volumes matrix



Stylish Patches and NFC-TAG Labels

The manufacturing of Stylish Patches and NFC-TAG Labels sold by PEAS Tech will be carried out internally. PEAS Tech will have full control of the production to guarantee the desired quality and sustainability level to be able to sell them with the “Made in Italy” brand.

The Stylish Patches collections will be produced by implementing a Make-To-Stock logic. In this way, it will be possible to concentrate the production of a specific collection of patches that will be released on the market on a specific date. This date is set previously by the B2C Marketing Team and based on this indication, the production department must produce all of them by that date to guarantee the right quantity of patches for both the physical and digital channels.

As said before considering the material procurement, also for the manufacturing it is essential to use sustainable practices, considering not only the realization of the final product itself but also the internal transportation and the packaging. Considering the make-to-stock logic and the high demand expected for the patches, packaging design should aim to prevent waste, promote the reuse of materials, and reduce the impact of final disposal. Patches don't need a specific type of packaging; thus, sustainable, and recyclable materials can be used to meet market criteria for both performance and cost.

To resume, the manufacturing strategy for each product is shown in *Table 6*:

Table 6: Manufacturing strategy

PRODUCT	MANUFACTURING	SUPPLIER/PARTNER	ADVANTAGE
WEAR ME APP	Outsourced	A software house (NEXT) in direct contact with App Development Unit	Shorter development time, higher quality, low CAPEX
NFC tags	Outsourced	Asian tech manufacturing companies	Large quantity orders at low prices, exploiting economies of scale
NFC-TAG Labels & Stylish Patches	Internal MTS logic	-	High quality and sustainability levels, guarantee the availability

3.7.4. Inventory management

The only inventory management considered is the one for the NFC tags, NFC-TAG Labels, and Stylish Patches. It is a crucial point because of the make-to-stock policy and the high demand expected by the market, and it consists of inventory of raw materials, WIP and finished goods. It is essential that each of these subsets, considering both NFC tags and related labels and patches, must be accurate at each phase of production, order tracking and handoff from one phase to the next, especially when dealing with high variability of demand due to unexpected changes, typical of the fashion industry. Inventory management is one of the phases which impact costs, production, and sustainability the most on the whole supply chain, thus specific practices must be implemented, considering:

- Warehouse design: to avoid excessive costs and negative environmental impacts, the warehouse building should be focused on the use of sustainable designs, sustainable building materials, electrical devices with higher efficiency and automatic controlling devices, to limit excessive energy consumed due to heating, lighting, cooling, and material handling. NFC tags require specific conditions for the environment where they will be stored, to limit the level of obsolescence of the technological components. Stylish patches, instead, do not need any specific condition where to be stored, but the design itself of the inventories should facilitate the fast movement of products when needed to satisfy the required demand.
- Use of technology and robotics: warehouse management system plays an important role to ensure sustainable performance by implementing modern energy-efficient handling technologies, by using algorithms and rules for route picking lists, order division, goods allocation etc. This enables on one side the creation of a more sustainable inventory management, and on the other side the more efficient control of products on the demand requirements.
- Material handling: both NFC tags, Stylish Patches and NFC-TAG Labels are products of small dimensions, thus the movement, control, protection, and storage inside the warehouse can be easily performed with a high level of efficiency. Implementing a proper material handling system would allow PEAS Tech to provide better customer service, reduce inventory levels and shipping time, and place emphasis on the decreasing cost of general production, distribution, and transportation.

Industry 4.0 can further help the company to become more sustainable in its inventory management, as well as reduce costs and risks related to it, while enhancing the

efficiency and effectiveness of the processes involved. PEAS Tech can implement technologies, robotics, and smart systems to deal with inventory management of NFC tags and the finished products which are the Stylish patches and the NFC-TAG Labels.

3.7.5. Logistics

Logistics deals with planning, implementation, and control of efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption to meet customers' requirements.

The management of logistics for this type of offering is considering only the management, movement and distribution of NFC tags, NFC-TAG Labels, and Stylish Patches. Since the NFC tags are components that are acquired from Asian suppliers PEAS Tech must manage its inbound logistics while the NFC-TAG Labels, and Stylish Patches, which are the finished products, require the management of their outbound logistics.

By properly designing and implementing a logistic management system, PEAS Tech would improve its corporate profitability, by reducing on one side the costs related to transport, handling, and storage of the items, and by increasing the customer service level with the possibility to reach a broader customer base and provide a premium price for the service offered. Moreover, logistics impacts also on the costs related to inventories, because it is directly linked to the DIH (days of inventory holding).

Considering fixed capital, logistics equipment such as transportation means, handling equipment and warehouses must be properly designed to saturate the capacity and thus reducing the related costs. Given the broad network where PEAS Tech should work to move the products in different stores, such as in the case of the Stylish Patches sold in the consumers market, or to move the NFC-TAG Labels that must be brought to the factories of the B2B client companies, the company can consider outsourcing the logistics to external providers.

Focusing on the transportation of the finished products, PEAS Tech should guarantee low costs considering transportation costs and inventory carrying costs, but it should also guarantee a high service level regarding punctuality and order cycle time, especially considering the variable and unpredictable environment of the fashion industry. Also, environmental issues and sustainability are core features to be considered when drafting the transportation management of the finished products. Considering the type of products to be handled, road transportation could be the best

solution for PEAS Tech to deliver the products in the different points, thanks to high accessibility, limited risk of damage, quick loading/unloading, low transit time and good reliability. The company needs to deliver products on time, considering the new collections and changes in the products which must be on the market exactly at the time of the new collection release. Given the high seasonality of Stylish Patches, it is essential to be ready when the products are needed in the shops. However, it is important to also consider the environmental aspect behind the choice of type of transportation mode. To improve the environmental performance of transport it would be better to use an intermodal transport set-up that includes rail or sea freight. The most important condition is to consolidate a large part of the total transport work into a centralized flow, because intermodal transportation reduces the environmental impact.

As previously said, PEAS Tech can also consider outsourcing the logistics process, based on the trade-off between risks and costs and value/benefit. Specifically, the factors to be considered are the level of maturity of the logistics services market, the internal competencies of the company on logistics, and the volumes required. PEAS Tech can outsource the entire logistic process to one or a few integrated logistics providers through long-term contracts, thus fully exploiting the potential values and benefits but with high switching costs in case of changes in the provider or to reverse the process. The other option could be to outsource only a single logistics sub-process, or activity, or asset to other interchangeable specialized logistics service providers through short-time contracts or single orders, thus lowering the switching costs but exploiting only a part of the overall functional benefits. Leveraging on third-party logistics providers could bring benefits also considering environmental impact, because the fill rates of trucks would be higher for long-haul freight than for shorter shipments.

The optimal solution for PEAS Tech is to outsource its entire logistic activities to one integrated logistics provider, such as UPS, that guarantees the highest level of sustainability of transportation through also electric vehicles, intermodal transportation and high saturation of the transportation means. In this way, PEAS Tech can obtain best-in-class logistic performances, lower investment in fixed assets, and be able to combine its environmental sustainability mission.

3.8. Financial Analysis

The financial analysis is useful to evaluate PEAS Tech's business model profitability and sustainability with a medium-term perspective, focusing especially on the first two years of operation 2023 and 2024, which are the most critical ones in which the company must cover the high investments to start the business. The financial analysis for the 2023, 2024, 2025 and 2026 was drafted, with a conclusion about the overall financial performance of the company. Relevant data and costs of the single voices of the P&L statement are assumptions deriving from the marketing analysis (see *Chapter 4*), suppliers' analysis, interviews with managers of partner companies (Fausto Chiappa CEO of 1TrueID, Matteo Ward Co-founder of WRÅD, Enrico Brazzelli owner of MOOD), and internal hypothesis about the future expectations of the company's performance.

3.8.1. Profit & Loss Statement 2023

The analysis starts from the definition of the revenues that the company will be able to achieve in 2023 both in the B2C market (*Table 7*) with the sale of Stylish Patches (with a unitary price of 5€) and in the B2B market (*Table 8*) with the contracts signed with the Italian fashion brands. The sale of the Stylish Patches will start from September 2023 with the beginning of the Omnichannel Marketing Campaign (*Chapter 4.4.10*. for further information on sales and the catchment area). From that date, both physical (retail stores and, only for that specific marketing campaign, the Pop-up Stores) and digital (PEAS Tech's website and e-Commerce channels) channels will be used.

Table 7: B2C market revenues 2023

	OMNICHANNEL MARKETING CAMPAIGN (SEPT-OCT)	MARKETING CAMPAIGN (NOV- DEC)
Number of Stylish Patches sold	120.000	30.000
Unitary Price	5 €	5 €
Revenues	600.000 €	150.000 €

To these revenues will be added the revenues coming from the selling of the WEAR ME App's user data to the fashion brands for a sum of 100.000 €. The total B2C revenues for 2023 are calculated in equation (1.0):

$$TOTAL\ B2C\ REVENUES\ 2023 = 600.000\text{€} + 150.000\text{€} + 100.000\text{€} = \mathbf{850.000\text{€}} \quad (1.0)$$

For the B2B market, from January 2023 it is expected to sign 14 contracts in the 2023 with Italian fashion brands (see *Chapter 4.2*) of which 10 will be the exclusive supply of the NFC-TAG Labels and 4 will also include the development of the “close” private version of the WEAR ME App for the client company, as shown in *Table 8*. The number of contracts dealing also with the development of the private App is expected to be low because of the long time needed to manage the contract and to find the right deal with collaborators. Signing a contract doesn’t mean that the brand will automatically start selling the products in the market; PEAS Tech will be paid in advance for the contract as a deposit and insurance for the success of the collaboration. Effective revenues from the collaboration will be collected whenever the brand is ready to sell in the market with the new fashion product collection (up to 18 months). Thanks to this policy, PEAS Tech will be able to already collect the money needed to finance the B2C market offering.

Table 8: B2B market revenues 2023

	NUMBER OF CONTRACTS	VALUE OF THE CONTRACT	NUMBER NFC-TAG LABEL PROVIDED IN A SINGLE CONTRACT
Contracts with only NFC-TAG Labels	10	40.000 €	10.000
Contracts with NFC-TAG Labels + development of the private App	4	80.000 €	10.000

The revenues coming from the B2B channel are calculated in equation (1.1):

$$TOTAL\ B2B\ REVENUES\ 2023 = 10 * 40.000\text{€} + 4 * 80.000\text{€} = \mathbf{720.000\text{€}} \quad (1.1)$$

For the first year of PEAS Tech's activity, the B2B channel will be fundamental because it will provide the necessary revenues to finance the growth of the B2C channel. The total revenues for 2023 are calculated in equation (1.2):

$$TOTAL\ REVENUES\ 2023 = 720.000 + 850.000 = \mathbf{1.570.000\text{€}} \quad (1.2)$$

Starting from the forecasted sale of the Stylish Patches and the NFC-TAG Labels, the total production and distribution costs (the distribution is fully externalized to an integrated logistics provider) can be defined, as shown in *Table 9* and equation (1.3).

Table 9: Total production & distribution costs 2023

	UNITARY COSTS (INCLUDING PRODUCTION AND LOGISTIC)	QUANTITIES	PRODUCTION + DISTRIBUTION COSTS
Stylish Patches	1 €	150.000	150.000 €
NFC-TAG Labels	0,4 €	140.000	56.000 €

$$\begin{aligned}
 \text{TOTAL PRODUCTION + DISTRIBUTION COSTS 2023} &= 150.000\text{€} + 56.000\text{€} \\
 &= \mathbf{206.000\text{€}}
 \end{aligned}
 \tag{1.3}$$

To these costs, must be added the personnel costs (*Chapter 3.4* about the PEAS Tech's Staff numbers) which correspond to 5 managers and 25 employees. Yearly workforce expenses are then calculated in equation (1.4):

$$\text{WORFORCE EXPENCES 2023} = 5 * 35.000\text{€} + 25 * 23.000\text{€} = \mathbf{750.000} \tag{1.4}$$

Total costs from operations can be calculated in equation (1.5):

$$\text{TOTAL COSTS FROM OPERATIONS 2023} = 206.000\text{€} + 750.000\text{€} = \mathbf{956.000\text{€}} \tag{1.5}$$

PEAS Tech will have to bear the investment costs related to the investment in an industrial building and the purchasing of the machinery required to start the production of the products and all related activities. The costs and the respective annual amortization are shown in *Table 10*.

Table 10: investment costs 2023

	COSTS	AMORTIZATION (YEARS)	ANNUAL AMORTIZATION
Plant investment	1.500.000 €	10	150.000 €
Machinery investment	800.000 €	10	80.000 €

To the total costs from operations are added the marketing costs (see *Chapter 4.6* for the computation), the costs related to the investments and the ones related to the suppliers/partners that must be sustained in the first year of activity that are:

- Blockchain costs & maintenance (1trueId),
- Design collaborations costs (WRÅD and MOOD),
- App development & maintenance (NEXT),
- Plant and machinery amortization.

Table 11: Total costs 2023

COSTS	
Marketing costs 2023	570.595 €
Blockchain costs (1trueId)	300.000 €
Blockchain maintenance (1trueId)	5.000 €
Design collaboration costs (WRÅD and MOOD)	50.000 €
App development (NEXT)	70.000 €
App maintenance (NEXT)	5.000 €
Plant amortization	150.000 €
Machinery amortization	80.000 €
Total	1.230.595 €

The overall costs for 2023 are calculated in equation (1.6):

$$TOTAL COSTS 2023 = 956.000€ + 1.230.595€ = \mathbf{2.186.595€} \quad (1.6)$$

It is possible to calculate the EBIT for the first year of activity, shown in equation (1.7):

$$EBIT 2023 = 1.570.000€ - 2.186.595€ = \mathbf{-616.595€} \quad (1.7)$$

Therefore, the first year of activity for PEAS Tech will end with a negative EBIT but with good growth prospects considering that in this first year the company has sustained the necessary investments to start the business.

3.8.2. Profit & Loss Statement 2024

The prospects for 2024 will be positive, as sales in the B2C market are expected to increase. This will be due to the increased presence on the market of PEAS Tech and the achievement of the critical mass of users in the WEAR ME App.

Table 12: B2C market revenues 2024

NUMBER OF STYLISH PATCHES SOLD	200.000
PRICE	5 €
REVENUES	1.000.000 €

To these revenues, shown in *Table 12*, will be added the revenues coming from the selling of the WEAR ME App's user data to the fashion brands for a sum of 200.000 €. Compared to 2023's revenues, this voice will double thanks to the increase of users who will use the App. The total B2C revenues for 2024 are calculated in equation (1.8):

$$TOTAL\ B2C\ REVENUES\ 2024 = 1.000.000€ + 200.000€ = 1.200.000€ \quad (1.8)$$

For the B2B market, from January 2024, it is expected a small growth compared to 2023 results with a total of 19 contracts, of which 15 will be with companies that will decide to join the WEAR ME App to become part of the large user base that habitually will use the App, without the need of development of a their "close" version of the App.

Table 13: B2B market revenues 2024

	NUMBER OF CONTRACTS	VALUE OF THE CONTRACT	NUMBER NFC-TAG LABEL PROVIDED IN A SINGLE CONTRACT
Contracts with only NFC-TAG Labels	15	40.000 €	10.000
Contracts with NFC-TAG Labels + development of the private App	4	80.000 €	10.000

The total B2B revenues are calculated in equation (1.9), resulting in total B2C + B2B revenues for 2024 shown in equation (2.0):

$$TOTAL\ B2B\ REVENUES\ 2024 = 15 * 40.000\text{€} + 4 * 80.000\text{€} = \mathbf{920.000\text{€}} \quad (1.9)$$

$$TOTAL\ REVENUES\ 2024 = 1.200.000\text{€} + 920.000\text{€} = \mathbf{2.120.000\text{€}} \quad (2.0)$$

Starting from 2024's sales forecasts, the production and distribution costs that must be sustained can be calculated, as shown in *Table 14*. Furthermore, the staff expenses will remain in line with those of the previous year.

Table 14: Total production & distribution costs 2024

	UNITARY COSTS (INCLUDING PRODUCTION AND LOGISTIC)	QUANTITIES	PRODUCTION + DISTRIBUTION COSTS
Stylish Patches	1 €	200.000	200.000 €
NFC-TAG Labels	0,4 €	190.000	76.000 €

The total costs from operations for 2024 are calculated in equation (2.1):

$$TOTAL\ COSTS\ FROM\ OPERATIONS\ 2024 = 276.000\text{€} + 750.000\text{€} = \mathbf{1.026.000\text{€}} \quad (2.1)$$

Moreover, PEAS Tech will have to bear other costs, such as:

- Marketing costs 2024,
- Blockchain maintenance (1trueid),
- Design collaborations costs (WRÅD and MOOD),
- App maintenance (NEXT),
- Plant and machinery amortization.

The fix costs for 2024 are shown in *Table 15* and equation (2.2):

Table 15: Fix costs 2024

COSTS	
Marketing costs 2024	400.000 €
Blockchain maintenance (1trueId)	5.000 €
Design collaboration costs (WRÅD and MOOD)	50.000 €
App maintenance (NEXT)	5.000 €
Plant amortization	150.000 €
Machinery amortization	80.000 €
Total	690.000 €

$$TOTAL\ COSTS\ 2024 = 1.026.000\text{€} + 690.000\text{€} = \mathbf{1.716.000\text{€}} \quad (2.2)$$

It is possible to calculate the EBIT for 2024, as shown in equation (2.3):

$$EBIT\ 2024 = 2.120.000\text{€} - 1.716.000\text{€} = \mathbf{404.000\text{€}} \quad (2.3)$$

Therefore, especially thanks to the achievement of the critical mass of the WEAR ME App, the company in 2024 will be able to reach the volumes necessary to create profits, to be financially sustainable, and to begin to repay the investments made to start the activity.

3.8.3. Profit & Loss Statement 2025-2026

The forecasts for the years 2025-2026 will be positive because:

- Fixed costs will remain aligned with those of 2024.
- The sales in the B2C market of Stylish Patches will continue to grow (in 2025 will be sold 250.000 units and in 2026 will be sold 300.000 units) thanks to the increasingly pervasive presence of the products on the market and the achievement of the critical mass of users who use the WEAR ME App.
- Sales estimates in the B2B market will remain aligned with those of 2024.
- The voice of costs that will increase in these 2 years will be the one linked to the production and distribution of the additional Stylish Patches that must be produced to reach the forecasted demand.
- The revenues from the sale of WEAR ME App user's data to fashion brands will increase (225.000€ in 2025 and 250.000€ in 2026) since the App will be used by more and more users who, therefore, will provide increasingly valuable and significant data useful to obtain strong insights for the companies of the fashion sector.

Therefore, the estimated EBIT for these 2 years is defined in *Table 16*:

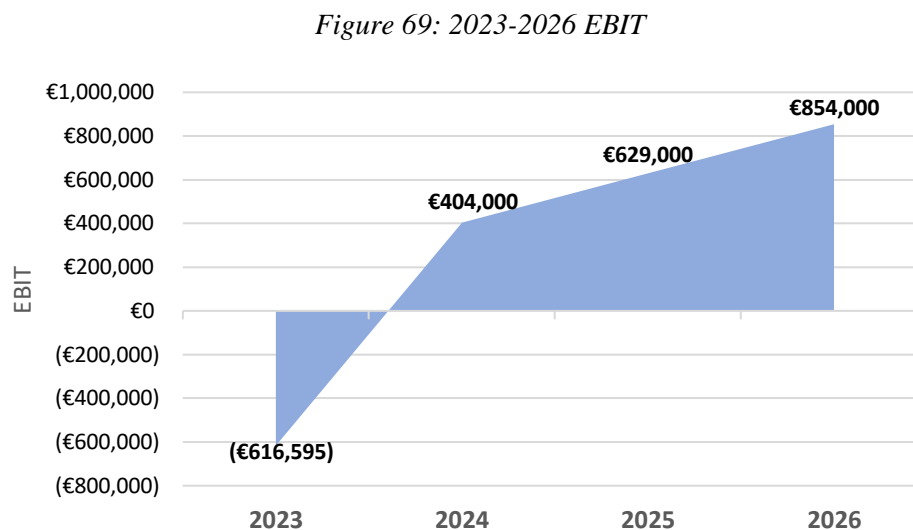
Table 16: 2025-2026 EBIT

	EBIT
2025	629.000 €
2026	854.000 €

3.8.4. Financial Analysis Conclusion

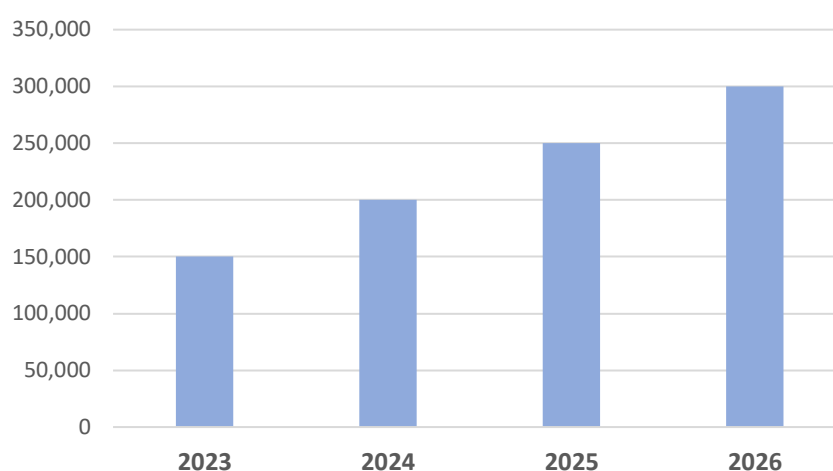
This analysis is useful to assess the financial sustainability of the PEAS Tech business model. By evaluating the bottom line of the financial statements, it is noted that in the year 2023 the company will go into negative results because it will have to bear many startup costs, in particular those necessary for the creation of digital assets such as the WEAR ME App and the creation of the blockchain environment. In subsequent years, the company, thanks to promotional marketing campaigns in the consumer market, will be able to increase sales volumes and users who will use the App. By doing so, it will be able to significantly increase revenues and therefore the EBIT.

In this regard, it is useful to visualize the growth of EBIT in the four years 2023-2026 in *Figure 70*.



The growth in revenues, and therefore the increase in the EBIT, is mainly supported by the increase in sales in the B2C market of Stylish Patches to consumers (*Figure 71*) who want to digitalize their clothes and assess their environmental impact by using the WEAR ME App.

Figure 70: Number of Stylish Patches sold forecasts 2023-2026



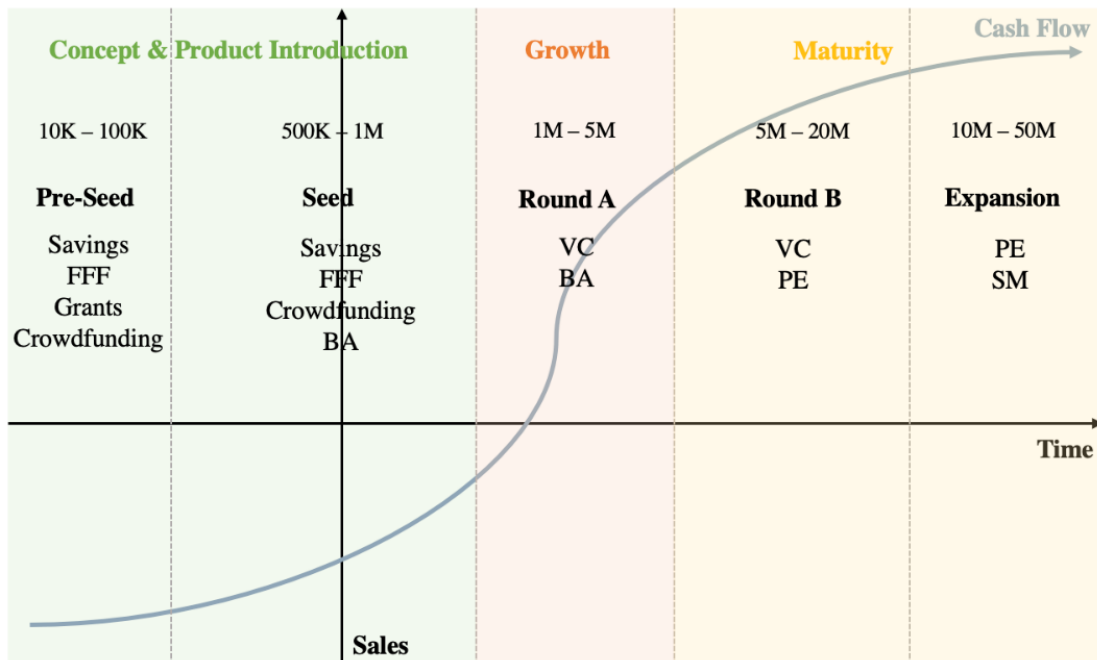
3.9. Financial Needs and Investors

PEAS Tech was born from the partnership between the Politecnico di Milano, the companies Mood, 1TrueID, WWG (now not anymore included in the project but substituted with NEXT company) and WRÅD with the financing of Regione Lombardia through the “Fashiontech call for applications” project. The company was founded in 2022 with its registered office in Busto Arsizio, north of Milan, and nowadays it is considered a startup. Indeed, its offering is based on the launch of a new product-service system in the market, thus developing a completely new business for which a proper funding strategy should be drafted. Politecnico of Milano will give the status of spinoff, to let PEAS Tech access the PoliHub incubator.

Being considered as a startup, the company needs to grow fast and collect funds to rapidly enter the market. Thus, the funding strategy is essential in the early stages, and different types of strategies may be applied in the different stages of the company’s life cycle.

To properly draft the funding strategy, PEAS Tech should at first determine, based on the financial analysis, the “right” size of the investment needed to sustain the activities before the financial break-even. Collecting funds is less risky when the company has already grown and at each stage of the startup lifecycle the size and type of investors are different, as shown in *Figure 72*.

Figure 71: Funding strategy along the startup's lifecycle



Starting from the first stage of the startup lifecycle, the pre-seed, PEAS Tech was in the initial phase of concept definition, very risky. In this case, the funding strategy considered was the one of grants, to obtain money from public and private entity to finance the startup at the beginning. In the case of PEAS Tech, the project obtained the first funds, in form of grants, that are necessary for the development of the service through the "Fashiontech call for applications" of Regione Lombardia whose aim was to help projects aimed at innovation in the "Textile, fashion, and accessories" sector supporting the principles of environmental, economic, and social sustainability. The project has obtained subsidies for a total of 442,615.79 €.

The second stage, the seed, is the current period of PEAS Tech, right before to start selling products and collecting the first revenues. The risk level is lower, but many investments are still needed to be able to enter the market and launch the products. Being a startup, PEAS Tech cannot rely just on the founders' savings, but other types of strategies are needed. Asking for a loan would be difficult because of the low history and assets of the company, and the interest costs needed to repay the loan over time. A possible strategy would be to resort to Business Angels, private managers or entrepreneurs with large savings who want to invest in the startup. In this case, PEAS Tech would negotiate their participation by defining the size and share of the ownership. The choice of Business Angel should be strategic, considering for example

managers coming from the fashion industry, who could be interested also in future for possible collaborations and partnerships.

After the launch of the product in the market in 2023, in the other stages of growth and maturity PEAS Tech will start generating revenues in the first half of 2023, the cash flows will come from the B2B side, thus reducing, even more, the level of risk. However, investments will still be needed to continue to grow in the market and become a stable company. PEAS Tech can still rely on Business Angels, but the funding strategy will be mainly focused on the access to the PoliHub incubator of the Politecnico of Milano. Incubators are similar to Business Angles but are companies which offer to the startup services and consulting, still with equity involvement. Corporate Incubators are one example of corporate venturing, i.e., the process in which a company (Politecnico of Milano) creates, adds to, or invests in new businesses (PEAS Tech business) to trigger a strategic innovation. PEAS Tech will benefit from this type of funding strategy thanks to the exploitation of value extracted from other resources, the spread of risk and costs of innovation, and the learning of new competencies. Moreover, especially in the case of startups which need to grow fast, Corporate Venturing accelerates the process of innovation because of fast adaptation, effective learning, and research.

3.10. Risk mitigation

PEAS Tech must deal with different types of products and services developed over time, starting from the creation of the blockchain ecosystem, to the development of the application and the final production of NFC labels and patches to be sold in the market. For this reason, many different types of risks are present, which could hinder the success of the initiative, especially considering the early stages when the offer is put on the market. Moreover, risks are even higher when dealing with NFC labels and patches because they are directly related to the risks of operating in the fashion industry, which increase even more the uncertainties and unpredictability in the value chain of the company because rapid changes in demand due to seasonality and new trends in the market.

3.10.1. Risk Typologies

Different types of risks can be identified, resumed in *Figure 73*:

Figure 72: Risk typologies



- **Technology risk:** omnichannel integration is an essential requirement for the company, to deal with online and physical stores and properly integrate the application into the daily use of its consumers with their clothes. Moreover, also blockchain technology must be constantly updated when dealing with the data shared in the system, to always guarantee the same level of quality required by the customers.
- **Trend assessment risk:** being strictly dependent on the fashion trends in the market, also the production of NFC labels and patches must face the risks related to the latest trends on the market, which may lead to a pile-up of inventory, destroying accountability and resulting in a confused brand identity. To mitigate this variability of trend assessment, PEAS Tech should accurately forecast using forecasting techniques and basing their analysis on the current trends of fashion clothes in the market.

- **Disruption risk:** focusing on the production of Stylish Patches, there could be disruptions or delays to material flows anywhere in the supply chain when suppliers cannot respond to changes in demand. As for the trend assessment risk, also in this case PEAS Tech should plan mitigation strategies based on historical information of clothing brands in collaboration with the company (i.e., MOOD and WRÅD companies), to understand the trend of the products directly associated with the Stylish Patches (which thus follow the same life cycle and demand). Moreover, another solution could be to provide excess flexible capacity in the existing plants, even if it could increase the related costs of inventory. Since PEAS Tech must deal with many different external suppliers, both for the technologies needed and other for the materials required, it is essential to build strong relationships within the overall supply chain, to better react to changes in the market and enhance customer value and loyalty, while reducing value chain costs. To overcome general uncertainty and risks, PEAS Tech must base its strategy on a high level of trust in the relationship, low transaction costs related to negotiation, monitoring, and enforcing, and long-term cooperation, coordination, and collaboration among players.
- **Forecast risk:** as said before, the fashion industry is strongly impacted by risks related to the mismatch between the company's projections and the actual demand of the market, because of seasonal demands, product variety and small product life cycles. Moreover, PEAS Tech has a complex and intricaded supply chain, which could lead to disturbance in disseminating information within the supply chain and thus increasing, even more, the inaccuracies in forecasts. This distortion increases as you go further away from the end consumer–bullwhip effect. PEAS Tech must increase the visibility of demand information, with continuous replenishment programs, forecasting and other initiatives to soften the bullwhip effect. Dealing with Stylish Patches, which are commodity, PEAS Tech should on one side hold inventories, but also build responsive delivery capacity to decrease forecast risks.
- **Intellectual property risk:** PEAS Tech doesn't have an internally integrated supply chain, because of the numerous external suppliers and partners along the processes. Outsourcing strategy creates intellectual property risks because the same manufacturers could be used by competitors. For this reason, it is essential that PEAS Tech keeps the core production processes in-house or at least under the direct control of the company, to not let spill out relevant information that could undermine the competitiveness in the market. The most important processes are the ones related to blockchain technology, the App, and

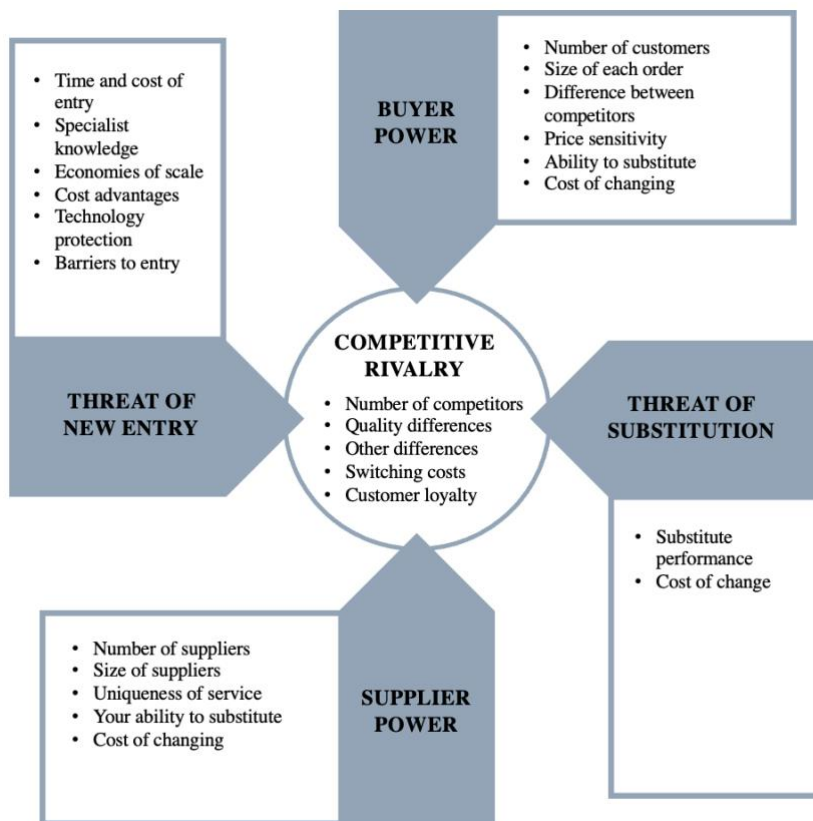
the production of Stylish Patches. For this reason, PEAS Tech has embedded in the App Development Unit (see *Chapter 3.4*) the skill and competencies required for the management e control of the WEAR ME App and blockchain environment, and, in the same way, has decided to carry totally in-house out the production of the Stylish Patches.

- **Inventory risk:** Stylish Patches are peculiar products, connected to the fashion industry characteristics because they are directly associated with the clothes where to be applied on by consumers. For this reason, Stylish Patches have the same demand variability and life cycle as fashion products. Demand variability implies keeping safety stocks in the inventory, to face peaks of demands and changes in the trends in the market. However, on the other side, short life cycle of products leads to expensive costs of inventory, hurting the financial performance of the company. PEAS Tech can face inventory risk by postponing or delaying the last stage of production, but still maintaining the make-to-stock logic applied. Also making existing capacity more flexible is a solution to face the high variability of inventories.
- **Risk of counterfeit products:** PEAS Tech must face the risk of counterfeit products in the market related to the Stylish Patches sold to consumers. The solution to mitigate this risk is to implement strategies to make the supply chain foolproof and use proper communication tools to create awareness among customers, especially in the early stages (considering that the products are new and unknown) to easily identify and differentiate between original and fake products.
- **Reduced profitability:** Stylish Patches are products with a short life cycle, and it is inconvenient to produce them in bulk because of the risk of obsolescence linked with the fashion trends in the market. Thus, it is difficult to take advantage of economies of scale and production costs would increase, resulting in a reduced profitability.
- **Sustainability risk:** PEAS Tech must deal with sustainability conditions among the overall supply chain, to guarantee the brand identity which is built upon sustainability. The company must have policies in place related to corporate social responsibility and environmental issues to keep environmental impact to a minimum.

3.10.2. Porter's Five Forces Model

Focusing on the risks related to the overall market where PEAS Tech will enter in its early stages of production, the Porter's Five Forces Model is applied, shown in *Figure 74*:

Figure 73: Porter's Five Forces Model



- **Threat of new entrants:** being the first entrant in this new market, PEAS Tech could leverage on many benefits by raising barriers to entry to new potential competitors, thanks to the strong brand image and loyalty built with customers and partners, scale and learning economies due to advantages of experience, learning and volume, and switching costs involved by the customers. Moreover, also properly building relationships with partners can close the access to distribution channels and suppliers to other potential competitors.
- **Rivalry among existing competitors:** being a new market, PEAS Tech doesn't risk having rivalry with other existing competitors, but in the long term it will be essential to properly face this rivalry by leveraging on differentiation, high switching costs and loyalty with customers and corporate clients.

- **Threat of substitutes:** in the long-term, new substitute products related to the smart patches applied on clothes could emerge, based on different technologies but performing the same function as the ones provided by PEAS Tech. The main threat, in this case, is the evolution of technology, which could lead to new substitutes entering the market.
- **Bargaining power of buyers:** in the early stages, buyers would have low bargaining power, because of the low presence of other competitors in the market and the high switching costs that PEAS Tech would establish to reach a strong customer base. However, it is important to keep a high level of differentiation, switching costs, buyer profitability and quality of products over time, also given the high level of knowledge and information of the buyer in the current industry. Bargaining power of buyers risks to dramatically impacting the prices of products.
- **Bargaining power of suppliers:** PEAS Tech strongly relies on suppliers for many processes of its supply chain; thus, their bargaining power is considered high. Suppliers must follow specific standards to keep the quality of products high, thus switching costs for the company are high and the need for strong relationships with suppliers lowers, even more, the probability of changing them.

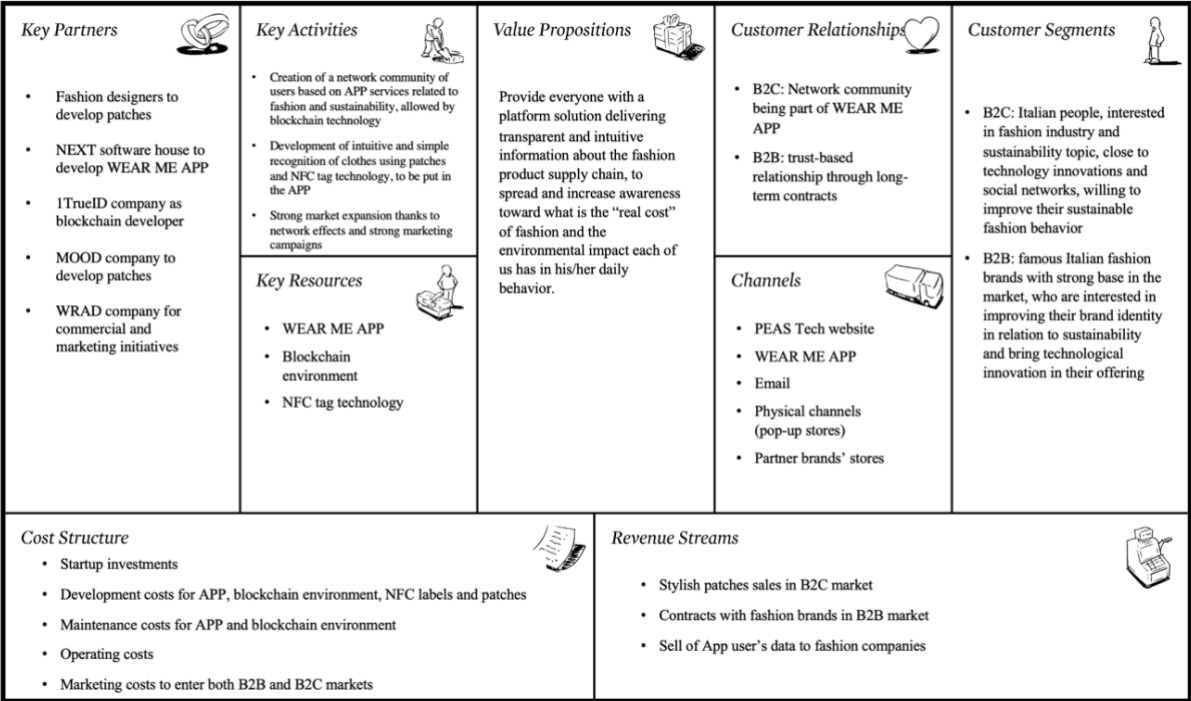
The market in which PEAS Tech will enter is characterized by a low level of competition. Indeed, it will enter a new market that is considered as a blue ocean, and with low buyers' bargaining power; this allows for good prospects of profitability. The critical points of the industry are linked to the high bargaining power that suppliers have, in particular for the development of the smartphone application and the blockchain environment, which are fundamental for PEAS Tech, and the uncertainties related to the future developments of new technologies that could allow, in the long-term, the birth of substitute products or easier entry of new competitors due to the lowering of entry barriers.

3.11. Business Model Canvas

The business model canvas is a visual chart which represents how a company buys and sells goods and services and earns money. It is composed of nine key variables

called bricks, describing the firm’s value proposition, infrastructure, customers, and finances. It is a useful tool to summarize the business plan and visualize it.

Figure 74: PEAS Tech Business Model Canvas



PEAS Tech’s business model canvas, shown in Figure 75, is made of the following bricks:

- Customer segment:** PEAS Tech has as target market two segments from both B2C and B2B markets. Specifically, regarding the B2C market the target segment represents Italian people, who are interested in the fashion industry. in sustainability, in technology innovation and social network communities, willing to improve their sustainable fashion behaviour toward a better society. This type of customer segment is deeper explained in Chapter 4. Regarding the B2B market instead, PEAS Tech wants to target specific Italian fashion brands with a strong base in the market, who are interested in creating partnerships with PEAS Tech to improve their brand identity in relation to fashion sustainability, and to enter this new market together.
- Value proposition:** the value to be delivered to the B2C target audience through also B2B collaboration to satisfy customers’ needs is the core vision of PEAS Tech company, who wants to provide everyone with a platform solution delivering transparent and intuitive information about the fashion product

supply chain, to spread and increase awareness toward what is the “real cost” of fashion and the environmental impact each of us has in his/her daily behaviour.

- **Channels:** to reach the targeted customer segments in delivering the value proposition, different channels are considered and integrated among each other. Starting from the core channel, the WEAR ME APP, B2C customers can interact with the brand through other touchpoints such as the PEAS Tech’s website, to buy online the patches, the email through newsletter subscription, pop-up stores to physically try the APP functionality with NFC tag technology and buy the patches, and partners’ brand stores who will sell their own products in collaboration with PEAS. B2B corporate clients can also leverage on email and PEAS Tech website touchpoints, to enter in contact with the company and start the collaboration. Channels’ interactions among the company and users are deeper explained in *Chapter 4* about the marketing plan.
- **Customer relationships:** given the type of value proposition, channels, and customer segments, the two main customer experiences provided by PEAS Tech are the B2C one, focused on the creation of a network community of people being part of WEAR ME APP, and the B2B one, focused on the creation of trust-based relationships with other fashion brands through long-term contracts.
- **Revenue streams:** the company will get revenues from both markets. Specifically, in the B2C market PEAS Tech will leverage on the selling of Stylish Patches since the download and use of the WEAR ME APP is free of charge, but creating a big community is still a fundamental feature to become successful in the market and sell more and more patches. In the B2B market, instead, the company will get profits from the contracts stipulated with fashion brands by providing the NFC-TAG Labels, and by selling WEAR ME App users’ data to the fashion companies.
- **Key resources:** to make possible the intended value proposition, PEAS Tech will develop the platform ecosystem through the proprietary WEAR ME App, whose information regarding the fashion sustainability of clothes will be managed in a transparent and trustful way through the blockchain environment. Another key resource, to make the overall service possible to be delivered, is the NFC tag technology applied on clothes using the NFC-TAG Labels or the Stylish Patches, which allow users to upload their clothes in the virtual wardrobe in the App and monitor their usage.

- **Key activities:** one of the main activities, using the above-mentioned resources, is the creation of a network community of users based on the WEAR ME App's services related to fashion sustainability, allowed by blockchain technology. Moreover, the company focuses also on the development of intuitive and simple recognition of clothes to be uploaded in the App using patches and the NFC tag technology, and a strong market expansion thanks to the reach of the critical mass of users of the App and the development of massive marketing campaigns.
- **Key partners:** activities and resources cannot be provided only by the company, there is a whole ecosystem made of partners such as suppliers and other incumbents of manufacturing and services. The main actors who provide a relevant contribution to PEAS Tech offering are NEXT company, the software house in charge of developing the application, 1TrueID company for the blockchain development, MOOD and WRÅD companies and other fashion designers to develop and design the Stylish Patches to be applied on clothes. Close relationships are established among these actors and PEAS Tech's internal business units, to assure an efficient and effective delivery of the services and products needed to be profitable in the market over time.
- **Cost structure:** the costs faced by the company to deliver the offering in the market and become profitable are at first the startup investments based on a specific funding strategy, to grow fast and collect funds to rapidly enter the market. Then, PEAS Tech must face also the costs related to the development of the APP, the blockchain environment, NFC labels and patches, as key resources to deliver the value proposition. To keep improving the services, maintenance costs related to the blockchain environment, and the APP must be also considered. Lastly, large marketing costs are needed to draft marketing campaigns in both B2B and B2C markets and the fundamental operating costs that are indispensable to run the activity.

In conclusion, the business model canvas is a useful tool to think beyond company's boundaries, by considering also external partners who compose the ecosystem upon which the company must deliver its services and earn money. Being strongly connected with the business plan drafted, the canvas' building blocks have mutual effects and should be progressively reviewed, especially in the case of PEAS Tech, a recently born startup willing to enter a new market.

4. Peas Tech Marketing Strategy

The PEAS Tech project foresees the presence of the services offered in two different markets at the same time. To implement an effective go-to-market strategy, therefore, it is essential to develop marketing campaigns structured for the two channels: one for B2B, where the objective of the strategy will be to make Italian fashion industry companies aware of the services offered by PEAS Tech, and the others for the B2C channel, where it will be central the ability to introduce consumers to the WEAR ME App and incentivize the purchase of Stylish Patches.

4.1. Marketing Plan (B2B)

The purpose of the B2B marketing plan is to make other strong brands familiar with the new PEAS Tech service, to exploit their influence in the market and create awareness about the solution. Being an interaction with other businesses and not with final consumers, the goal, the purchase motivation, the purchase process, and the purpose are different: the proposal must be focused on efficiency logic, financial incentives and proper decision-making for long-term solutions and relationships with companies.

The strategies used can be different, starting from e-mail marketing, which is largely used in the B2B business, to digital marketing (website, PPC campaigns). An important feature in the B2B marketing plan is the content itself of the marketing initiative, which must be focused on providing valuable information to build awareness in the initial phase and show to the companies how the solution proposed can solve their pains and needs. Providing clear and effective information is essential to show the profitability and the goodness of the solution, which is the focus of a business client.

In this plan the B2B Sales Team (see *Chapter 3.4*) will play a central role as they will have to manage a large network of company contacts. They must get in touch with the audience of possible companies interested in a collaboration with PEAS Tech for the creation of collections containing the NFC-TAG Labels and they must convince them to pay for their private “close” application or to become part of the WEAR ME App. The team will effectively present the concept of the service offered by PEAS Tech by focusing on the advantages that the client company would have in terms of image, innovation, and economic returns.

The main difference between B2B and B2C marketing is the fact that in the B2B is required a closer relationship with the customer who, once he becomes aware of the service offered, must be guided directly along the funnel from the moment of awareness, through an e-mail marketing, to the final point of the purchase. For this reason, it is essential that the B2B Sales Team creates personal relationships with corporate customers by guiding them along the customer journey by exploiting both marketing skills, to create awareness and interest, and sales skills, to finalize the purchase.

This plan will start with a marketing campaign on January 1st, 2023, with the introduction of the NFC-TAG Labels in the B2B market and the PEAS Tech's service for the development of the private app, and it will end on December 31st, 2023.

4.2. Digital, E-mail and Personal Marketing

Campaign (B2B)

The marketing campaign for the B2B channel starts with the desire to increase the awareness of the corporate customers about the PEAS Tech proposal using Search Engine Marketing (SEM) and Search Engine Optimization (SEO) to present the service on the search engines (Google Chrome, Microsoft Edge). At the same time, a direct e-mail marketing strategy will be implemented for the companies of the Italian fashion sector.

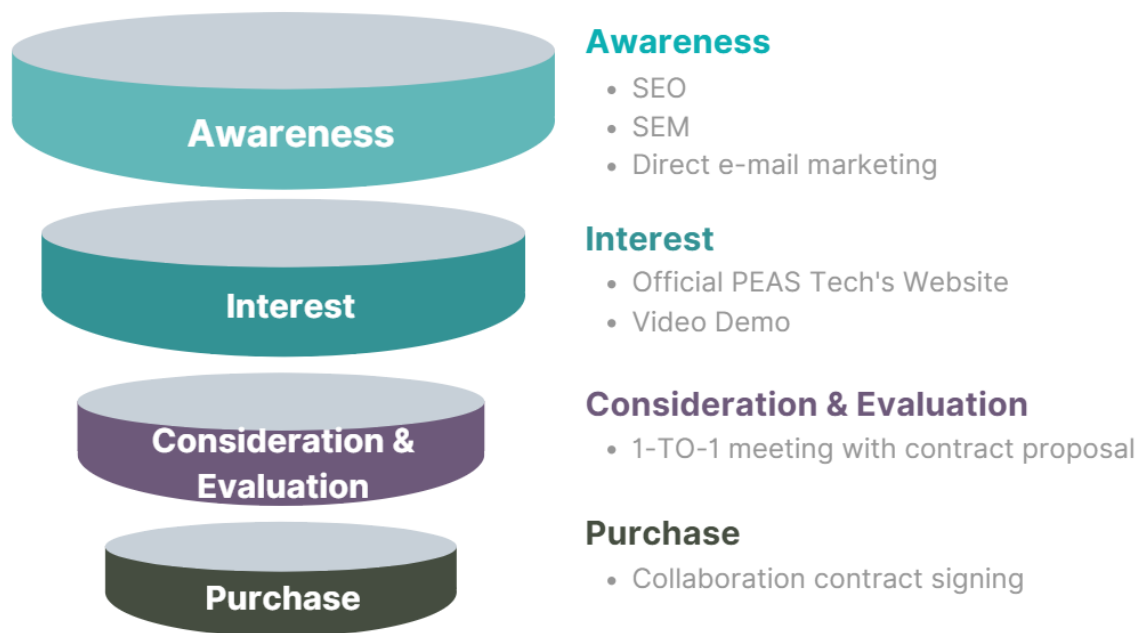
4.2.1. Content Idea

The B2B marketing campaign is based on the B2B marketing funnel, *Figure 76*, which is composed by the following stages:

- To raise awareness of the corporate clients about the PEAS Tech's offer, SEO, SEM, and direct e-mail marketing will be used to get in touch with companies of the Italian fashion industry to conduct them to PEAS Tech's website.
- Interested companies are invited to visit the PEAS Tech's official website and to view the B2B section where they can get more information, view presentation videos, and leave their company data in case of interest.

- After that, the B2B Sales Team will be able to collect visitors' data of the official web page and to contact those who had an interest in the proposal by setting up an exploratory meeting to discuss the bid.
- Finally, with corporate clients who have had an effective interest in the proposal, there will be the possibility of signing the contract for the initiation of collaboration between PEAS Tech and the client fashion company.

Figure 75: 4 Layers B2B Funnel Diagram



The marketing strategy is resumed in *Table 177*.

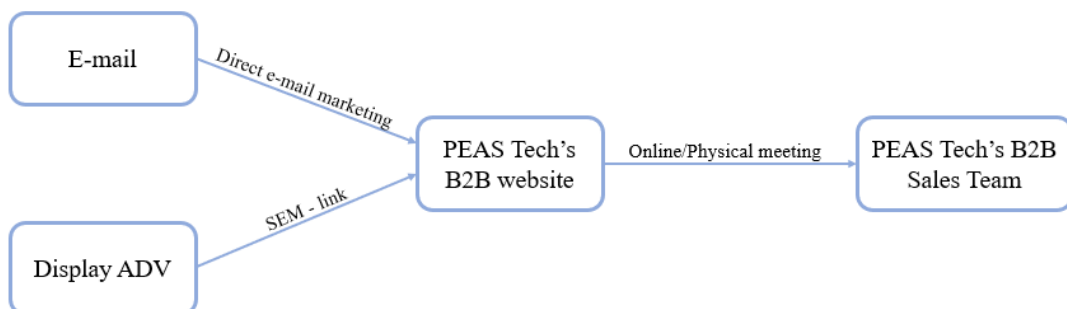
Table 17: The B2B Marketing Funnel

	AWARENESS	INTEREST	CONSIDERATION & EVALUATION	PURCHASE & LOYALTY
B2B client action	The corporate client encounters the service offered by PEAS Tech and searches for further information.	The corporate client examines the service's specific features.	The corporate client is curious about this new service and wants to discover more about it. He starts to evaluate how, and which are the related benefits for him.	The Business client decides to sign the proposal. Starts the process of creating the collection containing the NFC-TAG Labels and implementation of the application.
Tool used to enable the relationship	<i>SEM/SEO promotional messages and direct e-mail Marketing.</i>	<i>Official PEAS Tech's website with video demo.</i>	<i>B2B Sales Team directly contacts the corporate client to set a meeting to present the proposal.</i>	<i>Collaboration between PEAS Tech and the corporate client.</i>

4.2.2. B2B Cross-Channel Interactions

The main objective of the campaign is to generate awareness of the service offered within the Italian fashion sector and to convince any interested company to contact PEAS Tech. For this reason, to lead potential customers to sign a contract with PEAS Tech, it is essential to design in a linear way all the steps that will guide them within the journey by considering each interaction in the touchpoints defined, as shown in Figure 77.

Figure 76: B2B Cross-channels interactions map



4.2.3. Economic Analysis of the Campaign

Once the strategy through which PEAS Tech will enter the B2B market has been defined, it is essential to carry out an economic analysis to evaluate the costs that should be sustained. The analysis begins with the definition of the target area to which the marketing campaign is directed. According to a recent study made by Confartigianato, in 2021 in Italy, there are 55,000 companies in the fashion manufacturing industry.

Among these companies, lot of them would be interested in PEAS Tech's proposal to make their products more innovative with the introduction of NFC-TAG Labels and having the access to WEAR ME App. The main targets that PEAS Tech will attack are the 163 Italian companies that exceed € 100 million in revenues and the 15 companies that exceed € 900 million in annual revenues, such as Benetton or Moncler. These big Italian fashion companies represent the main collaboration opportunity for PEAS Tech because they have both the financial capacity to support this project, and the strategic propensity to innovate their offer.

As shown in *Table 18*, it is estimated that in the catchment area only 5% of them will show interest in the PEAS Tech's proposal since, among the 55,000 manufacturing companies present in Italy in the fashion sector, many of them are micro-enterprises too small to be able to support such project or are companies that have strategic choices that are not aligned with this innovative proposal. Subsequently, among the companies interested, it is estimated that 10% will proceed to contact PEAS Tech to receive more information about the possible collaboration. Finally, 5% of these companies, who encountered the PEAS Tech's B2B Sales Team, will decide to sign the contract. These low conversion rates are caused by the fact that this collaboration project requires an elevated level of commitment between the parties in terms of financial efforts, image, will, and strategic interest.

Table 18: Targeted audience B2B

	AWARENESS	INTEREST	CONSIDERATION	PURCHASE
Companies	<i>55.000</i>	<i>2.750</i>	<i>275</i>	<i>14</i>
Conversion Rate		5%	10%	5%

The next step is to calculate the expected budget for each marketing activity knowing that the B2B marketing campaign starts in January 2023 and ends in December 2023:

- **Website:** PEAS Tech needs to develop its own B2B online website to launch the product in the market and leverage on digital marketing actions. Based on several estimations, the budget needed for the company to develop the B2B website and the video presentations is 3.000€.
- **Direct e-mail marketing:** by considering 2 messages to be sent by email within 12 months of the marketing campaign (thus targeting the 55.000 companies to generate awareness), the related cost results to be 2.800€.
- **Search Engine Marketing:** by considering the keywords “NFC tag”, “smart clothes”, “fashion sustainability”, “digital clothes” it is possible to analyse the average bid for search engine marketing of each of these words. By calculating the average between the keywords’ bids equal to 0,87€, PEAS Tech should invest a Cost Per Click at least higher than that average to win the competition, thus resulting in a CPC of 0,88€. By considering an audience of 55.000 companies in Italy to be reached in the awareness phase, the overall SEM cost is calculated in equation (3.0):

$$\text{TOTAL COST} = 55.000 * 0,88\text{CPC} = \mathbf{48.400\text{€}} \quad (3.0)$$

To sum up, *Table 19* shows the total costs for each marketing activity in the B2B channel, the sum of them corresponding to the overall budget needed for the B2B marketing campaign in 2023.

Table 19: Marketing campaign costs

MARKETING CAMPAIGN COSTS	
Website	3.000€
SEM	48.400€
Direct email marketing	2.800€
TOTAL COSTS	54.200€

For the B2B channel revenues cannot be precisely quantitatively predicted as sales are heterogeneous and dependent on the type of contract stipulated with the specific company, but however, the general forecasts on possible revenues in the B2B were made in *Chapter 3.8* based on the interviews that were carried out to draft the financial analysis.

4.2.4. KPIs for Campaign B2B Objectives and Performances

A series of KPIs is set to measure the result of the campaign, to monitor the performances and to identify the elements on which is possible to improve. The indicators have been divided according to the phases of the B2B marketing funnel to which they refer, in *Tables 20, 21, 22, 23*.

Table 20: B2B Awareness KPIs

INCREASING AWARENESS		
KPI	Metric	Description
Open Rate E-mail	$\frac{\# \text{ opened email}}{\text{Tot \# email}}$	% of receivers that open the email.
Click Rate E-mail	$\frac{\# \text{ receivers click on the link}}{\text{Tot \# email}}$	% of receivers that click on the link to the website in the email.
Click-through Rate	$\frac{\# \text{ clicks}}{\# \text{ impressions}}$	% of receivers that click on the banner among the total number of receivers that have seen the banner displayed through SEO/SEM.

Table 21: B2B Interest KPIs

STRENGTHENING INTEREST		
KPI	Metric	Description
PEAS Tech's website visits	# visits on the website	Number of visits of PEAS Tech official website.
# Companies that submit their data	$\frac{\# \text{ companies that submit data}}{\text{Tot \# website visits}}$	% of companies that submit their data on the B2B website.

Table 22: B2B Consideration KPIs

CONSIDERATION & EVALUATION		
KPI	Metric	Description
# Companies that request a meeting	$\frac{\# \text{ companies that request a meeting}}{\# \text{ companies that submit their data}}$	Number of companies that decided to consider a collaboration with PEAS Tech

Table 23: B2B Purchase KPIs

PURCHASE		
KPI	Metric	Description
Contracts signed	# contracts signed	Number of contracts signed
PAR	$\frac{\text{Companies who sign a contract}}{\text{Companies in consideration phase}}$	Define how well the marketing efforts convert the consideration into a purchase
Profits	Total profits €	Profits coming from the B2B activities

4.3. Marketing Plan (B2C)

This plan is essential to make PEAS Tech known to the widest possible audience to solve the Chicken-Egg problem of the platform. Indeed, a product-centric approach is applied, where the focus is on volumes and sales as KPIs, to reach the critical mass needed and become stable in the market.

The plan must be structured in different omnichannel marketing campaigns, using social channels, such as Instagram or Google, and physical channels such as events to sponsor the application, its usage, and the Stylish Patches. The 2023 plan can be divided in two main stages:

1. Introduction: development of the omnichannel marketing campaign (B2C), that will start from 04/09/2023 to 29/10/2023. The objective is to raise awareness about problems of the environmental sustainability of the fashion industry, the introduction of the WEAR ME App to the users showing the application's features and benefits for them, and the start of the sales of the Stylish Patches. The core of this marketing campaign is represented by the physical experience that users can live by trying the NFC tag technology and the WEAR ME App's features in the pop-up stores, thus discovering the true meanings behind the product, its big potential and benefits for both users and the environment.
2. Subsequently development of the second marketing campaign (B2C) that will start on 30/10/2023 and it will end on 31/12 /2023. This campaign will continue to leverage the social network and search engines to promote the app and the sales of the Stylish Patches both through the physical and digital channels.

4.4. Omnichannel Marketing Campaign (B2C)

Designing a proper marketing campaign for final consumers is essential to attract most of them in downloading the WEAR ME App and buying the Stylish Patches, thanks to the strong awareness created by the campaign about the new product. Dealing with many different touchpoints, the company must follow a detailed and well-structured plan to manage them and be present where customers look for the product, to satisfy their needs. Especially in the case of PEAS Tech, digital and physical channels must be integrated and balanced to deliver a coherent and effective marketing campaign where the product is both physical (the patches and clothes) and digital (the APP). The marketing campaign aims at creating a valuable customer experience through each touchpoint with the company which are properly integrated to keep consistency along different channels – omnichannel approach. The sequence of the touchpoints is determined by the customer, thus co-creating the value, and the company's challenge is to “suggest” the path leveraging on a convincing topic.

To start defining the marketing campaign, a proper segmentation, targeting and positioning of the PEAS offering must be defined, to understand who the customer persona is in participating in the customer journey.

4.4.1. Target Segment

Considering the previous context analysis performed, the marketing campaign should aim at attracting a certain type of customers, who can truly capture the value behind the product offered by PEAS Tech and satisfy their needs. The final customer should be part of a target segment of people interested in the sustainability field, with attention to the fashion industry. Indeed, the core characteristic is to be a fashion lover, especially considering wearable products. Younger generations are the ones who are more inclined to obsessively buy clothes even when they don't need them, but they are also the ones who care the most about environmental issues and sustainability.

Given the final aim of using the WEAR ME App daily, the target segment should be also composed of technology-oriented people who are interested in using social networks and in creating social connections with other users on the platform. Finally, since the product and related technology (NFC tag) offered by PEAS Tech is new in the market, it is difficult to properly define a certain customer behaviour, but it is directly related to the needs and subsequent benefits sought by the product's usage. The main customer need considered is the need of monitoring the clothes usage behaviour in the daily life, to reduce the environmental impact of the fashion industry from the user's perspective. The target segment considered for the marketing campaign is resumed in the *Table 24* below:

Table 24: Target segment

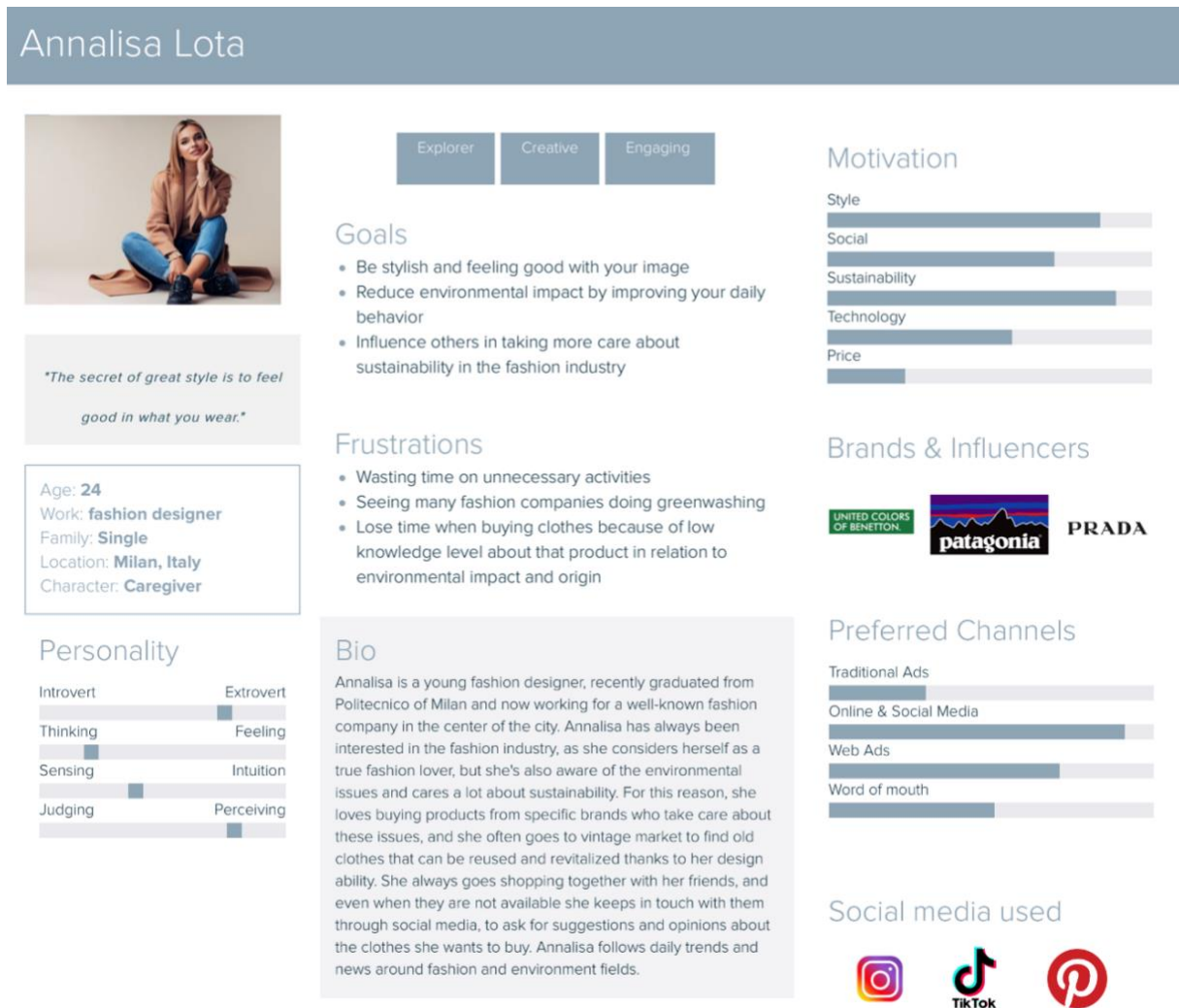
CUSTOMER CHARACTERISTICS	<i>Socio-demographics</i>	<ul style="list-style-type: none"> • Male and female • 15-35 years old • Employed • Medium income
	<i>Psychographic</i>	<ul style="list-style-type: none"> • Intensive use of social networks • Technology oriented • Fashion lovers • Caring about sustainability and environment
	<i>Geographic</i>	<ul style="list-style-type: none"> • Italy, extendable to Europe

CUSTOMER BEHAVIOUR	<i>Product usage</i>	<ul style="list-style-type: none"> • Usage in everyday life of smart APPs for improving daily activities • Responsible usage of clothes or occasions in which it is needed to improve the clothes usage behaviour • Occasions where you need to select the most correct wearable product to buy, considering sustainability issues • Being part of an eco-fashion community
	<i>Buying process</i>	<ul style="list-style-type: none"> • Use of social and web channels for getting information • Purchase both in store and on digital channels
CUSTOMER NEEDS	<i>Benefits sought</i>	<ul style="list-style-type: none"> • Ability to improve the clothes buying behaviour, reducing the amount of clothes bought because of sustainability • Ability to properly behave in a sustainable way in relation to the clothes used every day and monitor your behaviour to improve • Possibility to manage digitally all the clothes of his wardrobe

4.4.2. Customer Persona

Customer persona is the embodiment of a typical customer in the target segment previously defined. This is a fictional character created to understand and uncover his/her goals, expectations, motivations, frustrations, and feelings, which are essential to uncover customers' insights and needs and properly map the customer journey. Customer persona is not the perfect target, but a real person with real characteristics. The one considered for PEAS Tech marketing campaign is represented in *Figure 78* in the following page.

Figure 77: Customer persona



Annalisa, the customer persona, is looking for a product that could easily accompany her in the daily-life and could allow her to monitor her habits and behaviour quickly and intuitively when buying and using wearable products, to keep her stylish mood and at the same time reduce the environmental impact, thus becoming more sustainable when dealing with fashion industry. It is essential for her to be able to recognize the right clothes to buy and use in her life, without falling in the trap of greenwashing and compulsive shopping.

The marketing campaign will be focused on:

- Sensitize people about the environmental impact of clothes’ daily behaviour.
- Raise awareness about NFC tag technology and its potential in the market.
- Raise awareness about each user’s potential when becoming part of the PEAS network by using the App and the related services.

This marketing campaign is strongly connected with customers’ needs to be solved, dealing with an improvement of daily behaviours toward sustainability, a more balanced and wealthier relationship with fashion shopping (i.e., decrease compulsive fashion shopping), the provision of a simple and intuitive technology to satisfy the users’ needs every day over time, and be part of a community of people that gives importance to the sustainable way of living.

By looking at each phase of the customer journey (awareness, interest, consideration, purchase, and loyalty), different topics will be touched along the marketing campaign, with different messages delivered to customers, presented in *Table 25*:

Table 25: Marketing campaign theme

	AWARENESS	INTEREST	CONSIDERATION	PURCHASE	LOYALTY
Topic	In your daily life you don’t want to waste your clothes and you would like to become more environment-friendly	WEAR ME App allows you to monitor your daily habits when buying and using your clothes, thanks to the smart and intuitive mechanism of patches and NFC tags	The customer is curious about this new product and wants to discover how the App and NFC tag work and which are the related benefits	By purchasing the first stylish patches, the client is enabled to download the App and start keeping track of his own daily behaviour	The client buys more and more patches to enlarge his virtual wardrobe and shares his progress on social media and in the PEAS community
Message	<i>“Become the sustainable version of yourself and build a healthy relationship with your clothes”</i>	<i>“Improve your fashion habits every day and keep track of each clothing of your wardrobe”</i>	<i>“Try it: show the world your positive impact on environment”</i>	<i>“Start to apply patches on your own clothes and become part of sustainable fashion world”</i>	<i>“Improve and share your progress to your friends and your eco-fashion community”</i>

4.4.5. Media Selection

Communication in the omnichannel perspective can be provided through different types of media:

- Paid media: the company pays third parties for a service of communication, advertising space such as television, radio, magazine, SEM, etc.
- Owned media: communication is delivered through media owned by the company, such as the company website, retail stores, mobile APP, etc.
- Earned media: communication is generated by paid and owned media thanks to word of mouth, social media blogs, forums, etc. This type of content is not managed by the company, but it is user generated, so it's only observable by the company.

Advertising, which is part of paid media, is the most applied marketing communication program. However, according to the Weak Theory of Advertising, advertising is used by companies as a reminder and gentle nudge toward a particular brand about something that the customer already knows. Thus, only advertising is not enough for an effective marketing strategy, also because excessive use of mass paid advertising lacks credibility in the eyes of customers. Especially in case of PEAS Tech where the product is new and unknown in the market, leveraging only on paid media and advertising wouldn't allow customers to become properly aware about this new service and discover the benefits provided.

The marketing campaign will be centred on experiential marketing, which offers the opportunity to intrigue and to involve the customer directly, appealing to his sensory experience and the emotional sphere, thus raising awareness and interest about the product without being biased over the credibility of the brand and the service provided. To provide an experiential customer journey, the campaign is focused on different typologies of communication tools that are more physical and more personal, thus creating more engagement and being more realistic and credible in the messages. Indeed, it is essential to raise people's awareness, interest and consideration about this new product and its features to clearly position it into the customer's mind. The media considered as channels of interaction with the potential customers of PEAS Tech offering are presented in *Table 26*.

Table 26: Media selected

OWNED MEDIA	<i>PEAS Tech website</i>	PEAS Tech doesn't have already a developed website, but it can be built to boost the awareness about this new company on online channels. Indeed, search engine optimization can be implemented to maximize the number of visitors to the website by assuring that the site appears high on the list of results returned by a search engine. After that, also search engine marketing is implemented for the subsequent phases of the customer journey, using specific keywords related to the product that drive the customer to the PEAS website, e.g., <i>fashion sustainability, NFC tag, patches, digital wardrobe</i> .
	<i>PEAS social media accounts</i>	Social media advertisements are an essential tool to spread awareness about the new product and related services to reach as many users as possible. They are useful also in the loyalty phase of customer journey, to continuously engage users in sharing their experience in the App with their friends and onboard new users on the platform.
	<i>WEAR ME App</i>	WEAR ME App is the core channel of the customer experience because it is the one that onboards users in the network and keeps them engaged in using the services and buy new patches for their clothes. Customized notifications for clients are implemented to incentivize them in using the App every day.
	<i>Email</i>	From PEAS website, a newsletter can be created to invite users in downloading the App and keep track of news concerning the brand.
	<i>Pop-up store</i>	Pop-up store are the core of the marketing campaign, to physically engage the customer in an immersive experience by allowing them to try the patches, the NFC tag, and the related App. This allows not only to discover all the related functionalities of the product and services, but also the benefits and insights behind, thus increasing the consideration phase.
PAID MEDIA	<i>Display ADV</i>	Since PEAS is entering in a new market with a new and unknown product, display ADV are used in the awareness, interest, and consideration phases of the customer journey, specifically drafted for the marketing campaign.
	<i>Sponsorships</i>	PEAS can leverage on specific influent people coming from the fashion field to sponsor its new product and services, both on social media channels and physical channels, by engaging them in the pop-up store experience to attract more users.
	<i>Billboards</i>	They are placed on the main cities that will host the pop-up store to advertise the event and attract users in visiting the stores also from a physical channel of interaction. To raise curiosity, billboards have an interactive QR code that directly opens the PEAS website section in which, through localization, it will provide info about which is the nearest pop-up store to you.
EARNED MEDIA	<i>Word of mouth</i>	Thanks to both physical and digital channels used as paid and owned media, word of mouth and virality through social media will explode, thus improving awareness and interest phases of the customer journey. Moreover, also the loyalty phase will be impacted by word-of-mouth effects because people will be incentivized in sharing their experiences on the App and will be continuously engaged with the brand.

4.4.6. Content Idea

As explained before, to fully spread awareness in the market about the new product and services offered by PEAS Tech, customers must have the possibility to try the NFC tag technology and the APP features themselves to find all the insights and meanings that go beyond the product itself. To do so, experiential marketing is needed. The Stylish Patches and WEAR ME App physical take-off will take place on 18-24 September 2023 in Milan during Milan Fashion Week using both a physical marketing campaign (pop-up stores and billboards) and a digital marketing campaign (using the social media). The choice of this date and the city of Milan are fundamental because they will allow PEAS Tech to obtain media coverage necessary to create word of mouth, also launching a “challenge” to the traditional world of fashion with an innovative tech product that gives the focus on the theme of the sustainability of the fashion world. The innovative idea at the core of the marketing campaign, which will start that week, is to involve the customer in a targeted and personalized experience using pop-up stores spread around the 3 major cities in Italy, to raise awareness, interest, and consideration of the product, with the final aim to drive them to the purchase and loyalty phase and build a strong relationship with the brand, thus generating revenues for PEAS.

Pop-up stores will be placed in the three most important squares of Italian cities (Milano, Napoli, and Roma) for a period of 1 month, allowing users to visit them and physically test the product. Thanks to the intensive communication provided both in physical and digital channels, customers will become aware of this new product and will be invited in visiting the pop-up store to try it. By buying their first Stylish Patch at the pop-up store, people will receive a special discount embedded in the NFC tag of the patch that can be used to buy food and drinks at the store. It is essential for the company to attract users by leveraging on monetary incentives to create awareness in the market and let users discover the Stylish Patches and NFC tag functioning, because they are a new product that has never been seen nor used in any other occasion. This investment will be repaid in the future thanks to the high number of users attracted, that will buy many more Stylish Patches for their virtual wardrobe and will attract other potential users thanks to word of mouth and network effects, thus reaching the critical mass needed for the platform and generating revenues for the company.

The content idea is schematized in *Table 27*.

Table 27: Content idea

	AWARENESS	INTEREST & CONSIDERATION	PURCHASE & LOYALTY
Media	<ul style="list-style-type: none"> • PEAS website • PEAS social media accounts • Display ADV • Billboards • Word of mouth 	<ul style="list-style-type: none"> • Pop-up store • Sponsorships • WEAR ME APP 	<ul style="list-style-type: none"> • WEAR ME APP • PEAS website • E-mail • Word of mouth
Content	<p>Through different channels, users will discover the new product offered by PEAS Tech by showing at first the innovative technology of NFC tags and how they are applied on clothes through the Stylish Patches. The core of the advertisement is to show how simple and intuitive the application is, with the aim of raising interest to physically try it. Also, the App features will be shown, by focusing on the major benefits of the service (reduced environmental impact, improved behaviour with clothes, healthier relationship with fashion shopping)</p>	<p>After customers are aware of the product, they will be invited in visiting the pop-up store to try it. Specifically, pop-up stores will sell to users one stylish patch to be applied on their clothes with a special discount on, to let them try the NFC tag and the App. They will be guided in the App navigation by specialized staff, and they will be even more engaged thanks to the influent people coming from the fashion field that are sponsoring the product. The aim of this phase is to raise interest and consideration about the product, to convince the user in buying the patches and become part of PEAS network</p>	<p>Users will have the possibility to physically buy the patches in the pop-up store, or to buy them on PEAS Tech official website and subscribe to the newsletter to receive news and discounts about new releases. Users will be invited also in sharing their WEAR ME App account with their activities on social media to invite their friends in joining the platform, in exchange of rewards on the App. Users onboarded will spread even more the awareness of the product and service to new possible users, thanks to word of mouth and network effects</p>

4.4.7. Editorial Planning

The editorial planning is a tool useful to clearly define the scheduling of the various marketing activities and to analyse how these will impact on the different stages of the customer journey. The most important date that mark the activities is the opening date of the pop-up stores that will remain open for exactly 1 month, from the 18th of September to the 15th of October 2023. The overall marketing campaign will last 2 months, from the 4th of September to the 29th of October. Messages are conveyed in a consistent way, without overwhelms nor excessive promotions, in time with the different stages of the customer journey. The editorial planning for PEAS Tech marketing campaign is represented in *Figure 80* in the following page.

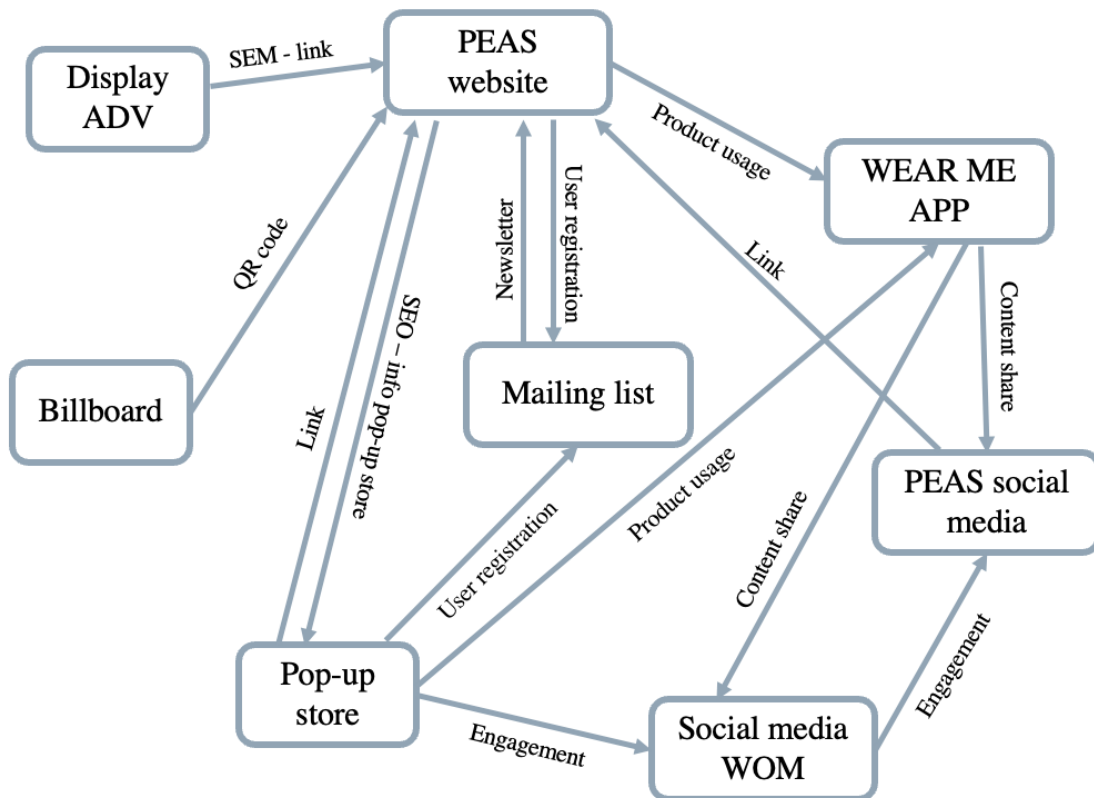
Figure 79: Editorial planning

		Pop-up Stores							
		AWARENESS INTEREST		CONSIDERATION PURCHASE		LOYALTY			
		04/09-10/09 Week 1	11/09-17/09 Week 2	18/09-24/09 Week 3 - Milano Fashion Week	25/09-01/10 Week 4	02/10-08/10 Week 5	09/10-15/10 Week 6	16/10-22/10 Week 7	23/10-29/10 Week 8
Billboards			"Build a healthy relationship with your clothes" Billboard about the pop-up store						
Display/ADV		"Build a healthy relationship with your clothes" Display adv	"Improve your fashion habits every day" Display adv	"Improve your fashion habits every day" Display adv	"Try it: show to the world your positive impact on environment" Display adv				
SEO/SEM		Search Engine Optimization for the Website for pop-up store			Search Engine Marketing with keywords that reconduct to PEAS' website				
Pop Up Stores in city squares					Visit the Pop-Up store to test the product functionalities Directly purchase the stylish patches at the Pop-Up store				
Sponsorship of the product at the pop-up store				Awareness adv at the entrance Interest when the sponsor shows the product Patch with special discount oh to try the experience at the Pop-Up Store					
PEAS official website		"Build a healthy relationship with your clothes" adv	"Improve your fashion habits every day" adv		Promotion adv of the try-on experience at the Pop-Up stores Purchase online the stylish patches			News to continuously engage the customer	
WEAR ME APP				NFC tag and APP features testing at the pop-up store Purchase patches on the APP Loyalty personalized notification to keep engaged the customer					
Mailing list								Loyalty mail to invite the client to use the product and share the invitation to his/her friends	
PEAS social media		Awareness on social networks about the product		Sponsor on the IG page the pop-up store event and the product functionalities				Repost on the IG page the contents of the users of WEAR ME APP	

4.4.8. B2C Cross-Channel Interactions

The main objectives of the campaign are to raise and increase awareness and engagement of the customers in each touchpoint of the customer journey, to let them discover the new product on the market and the related services and benefits sought, with the final aim of reaching the critical mass on PEAS Tech platform and enlarge more and more the network over time. Basing on this, it is central to create right connections between the various channels of the campaign to push the customer to move to the next stage, by effectively applying the call-to-action points and by maintaining a high level of curiosity and engagement during the overall journey. All the interactions among different channels must be designed with an omnichannel perspective in which the customer could move in an easy way from a physical experience, such as the pop-up store visit, to a digital environment such as the PEAS website or the WEAR ME App, giving always the same seamless experience, especially in a campaign centred on the experiential marketing. The interactions among these channels are presented in *Figure 81*.

Figure 80: Cross-channel interactions



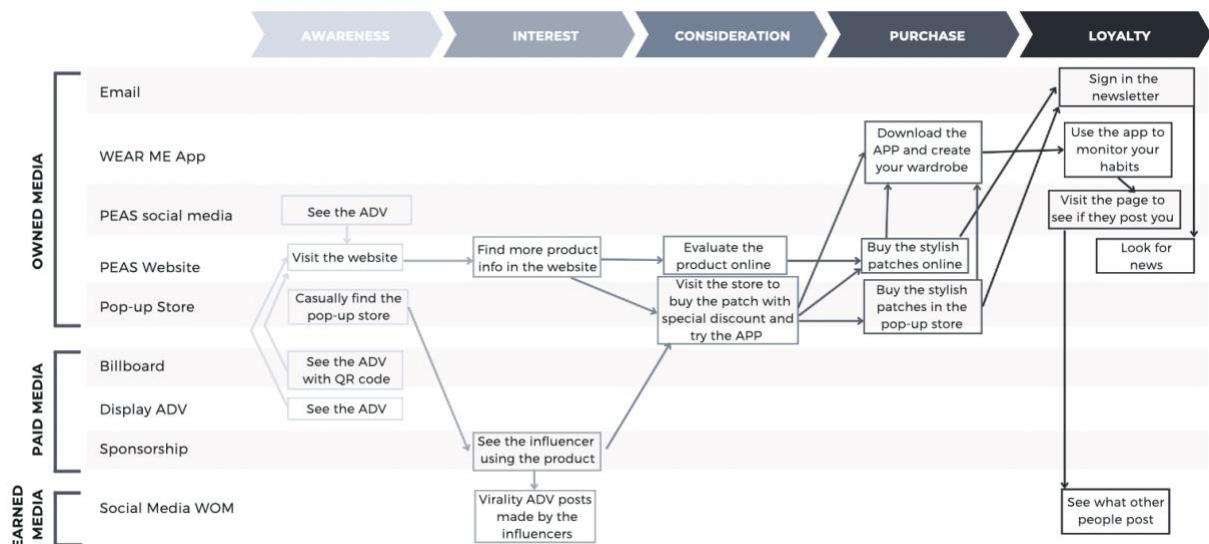
4.4.9. Customer Journey Map

The customer journey is represented using a two-dimensional map that designs the overall customer experience across channels, time, and points of contact. Indeed, the main elements of the customer journey map are:

- Customer persona: the protagonist of the customer journey, which goes across different stages.
- Stages: macro phases through which the customer persona goes through, thus developed from the customer perspective. The main stages are awareness, interest, consideration, purchase, and loyalty.
- Activities: multiple across the stages, are the specific tasks that the customer persona does across the journey, depending on the type of content provided through the different touchpoints. Activities are also drawn from a customer-centric perspective.
- Touchpoints: all channels, points of contact between the customer persona and the company, used to guide the customer along the journey based on a specific path programmed by the company.

After having defined all the necessary elements, the customer journey map can be built by following a customer-centric perspective, to understand the customer's cumulative experience over time, over different brand-owned touchpoints and channels provided by the marketing campaign. The customer journey is represented in *Figure 82*.

Figure 81: Customer journey map



4.4.10. Economic Analysis of the Omnichannel Campaign

To calculate the investments needed to put in place the marketing campaign for the B2C (introduction of the WEAR ME App and the Stylish Patches), the first step is to define the targeted audience volume for each step of the customer journey. The volumes defined with the related motivations are shown in *Table 28*.

Table 28: Targeted audience

	AWARENESS	INTEREST	CONSIDERATION	PURCHASE
AUDIENCE	3.000.000 users	1.380.000 users	414.000 users	62.100 users
DESCRIPTION	In Italy, the cluster of users in the age range of 15-40 y.o., with interests in technology and fashion is of 6.000.000 people. Considering that PEAS is a startup entering in a new market, thus unknown by people who are not yet aware about the offering, this volume can be halved to 3.000.000	On average, 46% of users act after viewing an advertisement, moving from the awareness to the interest phase	The effectiveness rating of various acquisition methods range between 42% and 71%. However, since PEAS is a startup in a new market, the percentage of users entering the consideration phase can be defined as the 30% of users from interest phase.	On average, it can be assumed that 15% of users in the consideration phase proceed to the purchase phase

The next step is to calculate the expected budget for each marketing activity:

- **Billboards:** the marketing campaign involves the exposure of 1 billboard in a strategic area in each of the 3 major Italian cities, where a potential large number of people can see them. The unitary cost of a billboard placed in the metro city is estimated to be around 1,5k€/week. Moreover, the cost for the development of the content can be considered about 300€. The total cost for billboards during the overall marketing campaign is calculated in equation (4.0):

$$TOTAL\ COST = (1.500\text{€}/week * 3\ billboards * 4\ weeks) + 300\text{€} = \mathbf{18.300\text{€}} \quad (4.0)$$

- **Website:** PEAS Tech needs to develop its own eCommerce website to launch the product in the market and leverage on digital marketing actions. Based on several estimations, the budget needed for the company to develop the website is of 2.000€.
- **Display ADV:** considering a banner header of size 728x90, exposed on the homepage of websites highly viewed in Italy, such as the most-read newspapers, it is possible to consider a CPM of about 1,2. The display advertising involves displaying 3 banners consistently with the awareness, consideration, and interest phases, to which they are addressed, in the weeks shown in the editorial planning. Given the targeted audience for the three phases of the customer journey, the total cost for display ADV is given by equation (4.1):

$$TOTAL\ COST = 1,2CPM * (3.000.000 + 1.380.000 + 414.000) = \mathbf{8.160\text{€}} \quad (4.1)$$

- **Search Engine Marketing:** by considering the keywords “NFC tag”, “patches”, “fashion”, it is possible to analyse the average bid for search engine marketing of each of these words. By calculating the average between the keywords’ bids equal to 0,29€, PEAS Tech should invest a Cost Per Click at least higher than that average to win the competition, thus resulting in a CPC of 0,29€. By considering an audience of 414.000 users to be addressed in the consideration phase, the overall SEM cost is calculated in equation (4.2):

$$TOTAL\ COST = 414.000 * 0,29CPC = \mathbf{120.060\text{€}} \quad (4.2)$$

- **Pop-up stores:** the marketing campaign includes the opening of pop-up stores in each of the 3 major Italian cities for a period of 4 weeks. Assuming a cost of about 40k€ per pop-up store and a cost of 10k€ for the staff who will work in each one, that total cost is calculated in equation (4.3):

$$TOTAL\ COST = (40.000\text{€} + 10.000\text{€}) * 3 = \mathbf{150.000\text{€}} \quad (4.3)$$

- **PEAS social media page:** the creation of the Instagram account is free of charge, but there are several costs related to the sponsorship of posts and stories. By estimating the sponsorship cost of one post on Instagram as 7.000€/week for the awareness phase (first 2 weeks) and as 3.500€/week for the consideration phase (next 4 weeks), the overall cost for the sponsorship of 2 stories per week for the first 6 weeks of the editorial planning is calculated in equation (4.4):

$$TOTAL\ COST = (2\text{posts/week} * 2\text{weeks} * 7.000\text{€/post}) + (2\text{posts/week} * 4\text{weeks} * 3.500\text{€/post}) = \mathbf{56.000\text{€}} \quad (4.4)$$

- **Mailing list & App notifications:** by considering 2 messages to be sent by email for the last month of the marketing campaign (thus targeting the purchase audience), the related cost results to be of 2.570€. The App customized notifications will cost instead 300€ (1€ per month for every 1.000 people). The total cost is calculated in equation (4.5):

$$TOTAL\ COST = 2.570€ + 1month * 1€/month * \frac{62.100users}{1000} = 2.812€ \quad (4.5)$$

- **Sponsorships:** famous and influent people coming from the fashion field will be invited in participating at the pop-up store event and will be paid to sponsor the PEAS Tech products and services on their social media. By considering two influencers with at least 1M up to 5M followers who publish one post per week on both Instagram and TikTok for 7k€ each, the total cost is calculated in equation (4.6):

$$TOTAL\ COST = \frac{7.000€}{post} * 2 \frac{post}{week} * 4 weeks * 2 influencers = 112.000€ \quad (4.6)$$

To sum up, *Table 29* shows the total costs for each marketing activity and the overall cost for the omnichannel marketing campaign.

Table 29: Omnichannel Marketing campaign costs

MARKETING CAMPAIGN COSTS	
Billboards	18.300€
Website	2.000€
Display ADV	5.753€
SEM	120.060€
Pop-up stores	150.000€
PEAS social media page	56.000€
Mailing list & APP notifications	2.812€
Sponsorships	112.000€
TOTAL COST	466.925€

To analyse the economic feasibility of the marketing campaign, the expected revenues coming from the marketing activities can be estimated. By assuming 5€ as the selling price of one stylish patch and 2 as the average number of patches sold per person, the expected revenues for the marketing campaign are calculated in equation (4.7):

$$\text{EXPECTED REVENUES} = \text{unitary selling price} * \text{quantity sold per person} * \text{purchase phase audience} = 5\text{€/pc} * 2\text{pc/user} * 62.100\text{users} = \mathbf{621.000\text{€}} \quad (4.7)$$

The percentage of marketing costs over the expected revenues from the marketing campaign are then calculated in equation (2.2):

$$\% \frac{\text{MKTG COSTS}}{\text{EXP REVENUES}} = \frac{466.925\text{€}}{621.000\text{€}} * 100 = \mathbf{75,19\%} \quad (4.8)$$

Moreover, by assuming a COGS of 1€/pc, the margin for each Stylish Patch would be equal to 4€, resulting in ROI shown in equation (4.9):

$$\text{ROI} = \frac{\text{unitary margin} * \text{quantity sold per person} * \text{purchase phase audience} - \text{TOTAL COSTS}}{\text{TOTAL COSTS}} * 100 = \frac{4\text{€/pc} * 2\text{pc/user} * 62.100\text{users} - 466.925\text{€}}{466.925\text{€}} * 100 = \mathbf{6,40\%} \quad (4.9)$$

In conclusion, the omnichannel marketing campaign (B2C) can be considered profitable for the company.

4.4.11. KPIs for Campaign B2C Objectives and Performances

As for the B2B marketing campaign, also in the B2C marketing campaign, a series of KPIs is set to measure the results of the campaign and identify elements on which it is possible to improve, starting from the objectives initially defined. The indicators have been divided according to the phases of the customer journey to which they refer, in Tables 30, 31, 32, 33.

Table 30: B2C Awareness KPIs

INCREASING AWARENESS		
KPI	METRIC	DESCRIPTION
Web ADV Impressions	# Impressions	Number of impressions on web ADV
Scanned QR Code billboards	# Scanned QR codes	Number of times the QR codes have been scanned and so people are redirected to the PEAS website
Impressions Display ADV	# Impressions on display ADV	Number of impressions on banners
Social Network	# Accounts reached	Number of unique accounts that have seen, at least once, the sponsored content of PEAS account

Table 31: B2C Interest & Consideration KPIs

STRENGTHENING INTEREST / CONSIDERATION		
KPI	METRIC	DESCRIPTION
Website visits	<i># Visits on website</i>	Number of visits on PEAS website
Social Network	<i># Accounts engaged</i>	Number of accounts that have interacted with the PEAS social media page (interactions are actions such as likes, content savings, comments, shares, and replies)
Try-on at the pop-up store	<i># People that go inside the pop-up store to get the free patch</i>	Number of people that enter the pop-up store to try the product after having seen the ADV or the sponsor

Table 32: B2C Purchase KPIs

ACQUISITIONS		
KPI	METRIC	DESCRIPTION
Stylish Patches sold	<i># Units sold</i>	Number of Stylish Patches sold
Profits	<i>Total profits €</i>	Profits net of the marketing campaign expenses
PAR	$\frac{\textit{People who buy}}{\textit{People who are aware}}$	Define how well the marketing campaign converts the brand awareness into a purchase action

Table 33: B2C Loyalty KPIs

CUSTOMER ENGAGEMENT		
KPI	METRIC	DESCRIPTION
Average engagement per post	$\frac{\text{Social engagement}}{\#posts}$	Average number of interactions made by users on contents with PEAS
Visits to the pop-up stores	<i># People that visit the pop-up stores</i>	Number of people that visit the pop-up stores
Product testing experience	<i># People that try the NFC tag and APP</i>	Number of people that go through the trial experience in the pop-up store
New followers of PEAS social media page	<i># Current followers - # Old followers</i>	Number of new followers of the social media page
WEAR ME APP	<i># Downloads</i>	Number of downloads of WEAR ME APP
Network size increase	<i># New users joining the network from other users</i>	Number of new users who download the APP from the invitation of their friends
Website's newsletter section	$\frac{\text{People that visit the newsletter section}}{\#people that visit the website}$	Number of people that periodically visit the PEAS website

In the marketing campaign it is important also to analyse, with the right KPIs, the performance of some important channels:

- The Paid Online Media Channels, crucial for the awareness, interest, and consideration phase – *Table 34*.
- The Purchase Channels (Website and pop-up store) – *Table 35*.
- E-mail and the WEAR ME App notifications that are very important for the loyalty phase – *Tables 36 and 37*.

Table 34: B2C Paid online media channel KPIs

PAID ONLINE MEDIA CHANNELS		
KPI	METRIC	DESCRIPTION
Cost Per Mille (CPM)	$\frac{Budget}{\#Impressions} \times 100$	Cost per thousand impressions
Pay-Per-Click (PPC)	$\frac{Budget}{\#Clicks}$	Cost per click
Click-Through Rate	$\frac{Clicks}{\#Impressions}$	% of users that click on the banner among the total number of users that have seen the banner on display ADV
Visit the Website through SEM	<i>\#Visits to the website through SEM</i>	Number of times the PEAS website has been visited through SEM

Table 35: B2C Purchase channels KPIs

PURCHASE CHANNELS		
KPI	METRIC	DESCRIPTION
Products sold at the pop-up stores	<i>\# Products sold at the pop-up stores</i>	Number of stylish patches sold at the pop-up stores
Products sold on PEAS website	<i>\# Products sold on PEAS website</i>	Number of stylish patches sold on PEAS website

Table 36: B2C Email KPIs

EMAIL		
KPI	METRIC	DESCRIPTION
Subscribe Rate	$\frac{\#Customers\ subscribed\ to\ the\ newsletter}{\#Customers}$	Number of customers that decide to subscribe to the newsletter
Unsubscribe Rate	$\frac{Customers\ who\ unsubscribe\ to\ the\ newsletter}{\#Customers\ subscribed}$	Number of customers that decide to unsubscribe to the newsletter after a certain period
Bounce Rate	$\frac{\#Undelivered\ email}{Tot\ \#Email}$	Percentage of loyalty email that have been undelivered
Open Rate Email	$\frac{\#Opened\ email}{Tot\ \#Email}$	Percentage of receivers that open the email about the newsletter
Click rate	$\frac{Receivers\ click\ on\ the\ link}{Tot\ \#Email}$	Percentage of receivers that click on the link in the email

Table 37: B2C Peas APP KPIs

WEAR ME APP		
KPI	METRIC	DESCRIPTION
Opt-in	$\frac{\#Users\ who\ accept\ to\ receive\ notifications}{\#Users}$	Number of users who wish to receive notifications through the app
Open Rate APP	$\frac{\#Opened\ personalized\ notifications}{Tot\ \#personalized\ notifications}$	Number of personalized notifications viewed compared to those sent

4.5. Second Marketing Campaign (B2C)

This second marketing campaign for the B2C market will continue the process of promoting the WEAR ME App and the sales of the Stylish Patches within the consumer market that began with the previous Omnichannel Marketing Campaign (B2C).

In this phase it is essential also to promote the sponsorship of some designers and artists, which could collaborate with PEAS Tech for the designing of new collection of patches, to make the Stylish Patches known more to the audience and create word of mouth on the social media.

To promote the products, PEAS Tech will continue to leverage on social channels through SEM and on promotions on the main marketplaces (such as Amazon.com). In addition, this marketing campaign will support the process of mass distribution of the Stylish Patches within physical retail stores.

It is estimated that the budget for this campaign, which will be exclusively online, will be of 50,000 €, starting on 30/10/2023 until 31/12/2023.

4.6. Expected Results of the 2023 Marketing Strategy

Well-established companies, who already get revenues from their business in the market, typically define their marketing budget as between 6% and 10% out of their overall revenues, or between 8% and 12% out of their overall budget for the business. However, since PEAS Tech is a startup that hasn't yet entered the market (at the end of 2022), it needs a stronger investment in marketing expenses to establish a big customer base and start getting revenues. For this reason, the marketing budget can be considered as the 25% out of the overall expenses for the production, distribution, and management of the company.

Given the overall expenses that the company must face to enter the market (see *Chapter 3.8.*), it is possible to calculate the overall expenses needed to bring in place the marketing campaign, both for the B2B and B2C channel, and verify that they correspond to the allocated budget, i.e., 25% of the overall expenses of the first year of operations. Data about the overall marketing strategy costs are shown in *Table 38.*

Table 38: 2023 Marketing strategy costs

2023 MARKETING STRATEGY COSTS	
B2B Marketing Plan	53.670€
Omnichannel Marketing Campaign B2C	466.925€
Second Marketing Campaign B2C	50.000€
TOTAL MARKETING COST	570.595€

The percentage of marketing costs over the expected overall costs for the 2023, defined in *Chapter 3.8.*, are then calculated in equation (5.0):

$$\% \frac{MKTG\ COSTS}{EXP\ TOTAL\ COSTS} = \frac{570.595€}{2.186.595€} * 100 = \mathbf{26,10\%} \quad (5.0)$$

In conclusion, the marketing expenses do not overcome the allocated budget with respect to the overall expenses of the company.

5. Conclusion And Future Developments

The final chapter aims to underline the main conclusion about the analysis performed in this Thesis, together with future developments of the project.

The Thesis focused on the analysis of the business plan of Peas Tech company, to launch its innovative project in the market and revolutionize the mindset and habits of people dealing with fashion sustainability. Being a new product and service in the market, the level of uncertainty is very high, as well as the number of criticalities in the field of fashion which is governed by high competitiveness, strong incumbents, and continuous threat of new entrants and substitutes. Moreover, dealing with sustainability became a hot topic nowadays, a challenge that all companies are trying to face to transform their businesses in the light of the new needs of the market. The analysis of the PEAS Tech's business plan focused on managing these risks and uncertainties, to let the startup grow and become successful in the market. Starting from the definition and development of the main products and services, with strong attention on the APP development that is the core of PEAS Tech offering, being successful is not just a matter of selling the right products. Indeed, the analysis then focused on the evolution of each building block of the business plan, from the go-to-market strategy, to operations, to finance, and ultimately to marketing strategy, essential for PEAS Tech to create awareness about its new offering in the market and reach the critical mass to become profitable. Several actors are involved in this process and defining the right strategy to collaborate is revealed to be essential. The Thesis analysis was made simultaneously with the ongoing activities of the company. Thus, now PEAS Tech should start putting in practice the strategy defined, to verify its efficiency and efficacy and apply changes based on the evolution of the business. Indeed, developing a business plan is an iterative process which depends on the evolution of the company.

Further developments and analysis of the project should focus on the company's organizational learning process, by collecting feedbacks from the market about PEAS' offering and by understanding what must be kept and what needs to be changed in the business plan to improve. By looking at both the company's experience in the new market and the performance of other players, PEAS Tech can leverage on validated learning process, made of the following phases:

1. Develop hypotheses about a product.
2. Test it on the market through an MVP.

3. Obtain data and insights about the key success factors.
4. Preserve if hypotheses are confirmed, pivot if are partially confirmed, abort if are rejected.

Through the build-measure-learn cycle, the company can learn how to improve in a fast way, reducing uncertainty and biases from the process. As soon as the learning process is concluded, the company can then manage to apply the changes in the business plan and reorganize so that it is possible to reach the goals defined, become successful and profitable in the market, and spread the vision and mission of the company in the society, to revolutionize the fashion industry putting sustainability first.

Therefore, PEAS Tech's objective is to transform the invention, which is currently the PEAS project, into an innovation by being able to implement the new service that will be valuable to both end consumers and the environment and will be able to generate economic returns for the company. This innovation is sustained by the new meaning that PEAS Tech wants to introduce into the market by changing the value parameters of the Fashion Sector, especially the ones of the Fast Fashion, with new value drivers connected to the conscious and responsible usage of clothing. The final aspiration will be that the end consumers will not base anymore their purchase choices only on value drivers such as the style and the price but also on the environmental impact that the specific cloth has.

The project presented in this thesis is designed to be introduced initially in the Italian market, both B2C and B2B side, and, in case of the success of the initiative and positive feedback from clients, it can be expanded to other markets following the guidelines identified in these pages.

In conclusion, from the analysis conducted in the Thesis, the PEAS Tech project has a high probability of success, thanks to the matching between company's offering and market's needs. Overcoming the lack of awareness and knowledge about the importance of sustainability in the fashion industry is the most difficult challenge, but with the right products, the right means, the right mindset, and the right motivation, the future development of the project can only become a great triumph.

Bibliography

1. 1trueid - The open and smart blockchain. *1TrueId* <https://www.1trueid.net/>.
2. madproduction. 35 Statistiche che vi convinceranno a fare pubblicità online. *Mad Blog* <https://mad-blog.it/35-statistiche-che-vi-convinceranno-a-fare-pubblicita-online/> (2019).
3. de Swaan Arons, H. & Waalewijn, P. A Knowledge base representing Porter's Five Forces Model. (1999).
4. Rossi, C. Advanced Competition Models - notes from Business & Industrial Economics course.
5. Altering The Apparel Industry: How The Blockchain Is Changing Fashion. <https://www.forbes.com/sites/samantharadocchia/2018/06/27/altering-the-apparel-industry-how-the-blockchain-is-changing-fashion/?sh=193edc0c29fb>.
6. App v2 Eco-Fashionable[72].pdf
7. App v3 Look Good[1].pdf
8. App v4 Eco-Tee[63].pdf
9. Aprire un Temporary Store: adempimenti burocratici e costi. *Finanziamenti a Fondo Perduto - Contributi PMI* <https://www.contributipmi.it/aprire-un-temporary-store/> (2020).
10. Vaccari, S. Aumenta le Vendite B2B ampliando la Rete di Contatti. *MG Group Italia* <https://www.mgpg.it/2019/02/25/aumenta-vendite-b2b-ampliando-rete-di-contatti/> (2019).
11. Authenticity. <https://www.stoneisland.com/us/authenticity>.
12. B.U.R.L.+n.+4del+21+gennaio+2020+-+Graduatoria+Fashiontech.pdf.
13. Ferrari, L. Bending Spoons Guest Speech - Digital Business course.
14. Portale, V. Blockchain and DLT: application and trends - Digital Business Innovation course.
15. Noci, G. Business Model & Business Plan - notes from Strategy & Marketing course.
16. Spina, G. Capitolo 4: La struttura dell'organizzazione. in *La Gestione dell'impresa*.
17. Azzone, G. & Bertelè, U. Capitolo 11: Le strutture organizzative. in *L'impresa: sistemi di governo, valutazione e controllo*.
18. admin. Cartelloni pubblicitari: ecco i motivi perchè servono. *Ideare Communication* <https://www.idearecommunication.it/cartelloni-pubblicitari/> (2021).
19. Consider the life cycle | Paints for life. <https://www.paintsforlife.eu/en/product-development/consider-life-cycle>.
20. Cosa sono le DApp e come possono rivoluzionare il mondo delle App. https://blog.osservatori.net/it_it/dapp-blockchain-cosa-sono.
21. COVID Promo - Video Desktop. <http://ceros.mckinsey.com/coronavirus-promo-video->

desktop.

22. Lamberti, L. Customer journey, Advertising & Paid media, Metrics for omnichannel marketing - notes from Omnichannel Marketing Management Course.
23. Barnhart, B. Dati demografici dei social media per elaborare la strategia del tuo brand nel 2021. *Insights (Italiano)* https://sproutsocial.com/it/insights/new-social-media-demographics-it_it/ (2021).
24. Digital Company | Sviluppo Digitale Roma. *Next Adv* <https://www.nextadv.it/chisiamo/>.
25. Fast fashion market value forecast worldwide 2021-2026. *Statista* <https://www.statista.com/statistics/1008241/fast-fashion-market-value-forecast-worldwide/>.
26. Global apparel market - statistics & facts | Statista. <https://www.statista.com/topics/5091/apparel-market-worldwide/#dossierKeyfigures>.
27. Good On You - Sustainable and Ethical Fashion Brand Ratings. *Good On You* <https://goodonyou.eco/>.
28. Gucci Tag | The New Product Authentication Service | GUCCI®. https://www.gucci.com/uk/en_gb/st/nfc-tag-experience.
29. *How does Nike Connect work?* (2020) – YouTube Video
30. Chiappa, F. Interview with 1TrueID owner.
31. Brazzelli, E. Interview with MOOD owner.
32. Ward, M. Interview with WRÅD owner.
33. *Introducing the Nike NBA Connected Jersey.* (2017) – YouTube Video
34. Learn What Are NFC Tags — A Beginner’s Guide. *Nomtek* <https://www.nomtek.com/blog/what-are-nfc-tags>.
35. Frattini, F. Learning for Strategic Innovation - notes from Strategic Innovation course.
36. Trabucchi, D., Buzan, T., Pellizzoni, E. *Leveraging Big Data to Capture Value.* (2017 Give Away Your Digital Services)
37. Brun, A. Luxury Supply Chain Management - notes from High End & Luxury Industries Management course.
38. Moda sostenibile: cos’è e perché è importante l’ecofashion. *L’Ecopost* <https://lecopost.it/vivere-green/moda-sostenibile/> (2021).
39. Neomedia - Mailing List > Listino prezzi. <https://www.neomedia.it/servizi/maillinglist/listino/>.
40. Lee, Y. & Colarelli O’Connor, G. New Product Launch Strategy for Network Effects Products. **31**, 241–255.
41. Nike: Nike NBA Connected Jersey • Ads of the World™ | Part of The Clio Network. *Ads of the World™* <https://www.adsoftheworld.com/campaigns/nike-nba-connected-jersey>.

42. P.E.A.S: the app for measuring the environmental impact of fashion. *Politecnico di Milano School of Management* <https://www.som.polimi.it/en/p-e-a-s-the-app-for-measuring-the-environmental-impact-of-fashion/> (2022).
43. P.e.a.s. Tech Srl di Busto Arsizio. *Elenco Aziende Italia* <https://www.informazione-aziende.it/Azienda PEAS-TECH-SRL>.
44. Bellini, E. Platform Thinking – notes from Leadership & Innovation course.
45. Popolazione residente al 1° gennaio : Per fascia di età. <http://dati.istat.it/Index.aspx?QueryId=42869>.
46. POR FESR 2014 - 2020: Bando Fashiontech - Progetti di ricerca e sviluppo per la moda sostenibile. <https://www.fesr.regione.lombardia.it/wps/portal/PROUE/FESR/Bandi/DettaglioBando/Agevolazioni/bando-fashiontech-corr>.
47. Preventivo Online Sito Web | PMIMarketing. *PMI Marketing* <https://pmimarketing.it/preventivo-online-siti-web/>.
48. Qual è l'uso dei tag RFID su GUCCI, ZARA e NIKE? *RFIDup.com* <https://www.rfidup.com/what-is-the-use-of-rfid-tags-on-gucci-zara-and-nike/> (2020).
49. Nast, C. Quanto guadagnano gli influencer in Italia? *Wired Italia* <https://www.wired.it/article/influencer-quanto-guadagnano-italia-tiktok-facebook-youtube-instagram/> (2022).
50. Rating WWF – Industria tessile e dell'abbigliamento | WWF Svizzera. <https://www.wwf.ch/it/i-nostri-obbiettivi/rating-wwf-industria-tessile-e-dell-abbigliamento>.
51. REPORT di Progetto – LCA WRAD_v2[16].pdf
52. Secondhand apparel market value worldwide 2021-2026. *Statista* <https://www.statista.com/statistics/826162/apparel-resale-market-value-worldwide/>.
53. Shifting sands: How consumer behaviour is embracing sustainability. *Deloitte Switzerland* <https://www2.deloitte.com/ch/en/pages/consumer-business/articles/shifting-sands-sustainable-consumer.html>.
54. Slow fashion e sostenibilità: Wear Me 30 Times 'allunga' la vita dei prodotti. *ESG360* <https://www.esg360.it/environmental/slow-fashion-e-sostenibilita-wear-me-30-times-allunga-la-vita-dei-prodotti/> (2021).
55. Software house per realizzare i tuoi progetti | WWG. <https://www.wwg.it/>, <https://www.wwg.it/>.
56. Noci, G. Startup Funding rounds - notes from Strategy & Marketing course.
57. Storey - Virtual Closet App. *Storey - Virtual Closet App* <https://www.storeytheapp.com>.
58. Storey Wardrobe - Share Style. *App Store* <https://apps.apple.com/us/app/storey-wardrobe-share-style/id1500225429>.
59. STUDI – Trend imprese della Moda: nella pandemia persi 20,6 miliardi di euro di ricavi,

- ma cresce la qualità del made in Italy. *Confartigianato Imprese*
<https://www.confartigianato.it/2021/06/studi-trend-impresе-della-moda-nella-pandemia-persi-206-miliardi-di-euro-di-ricavi-ma-cresce-la-qualita-del-made-in-italy/> (2021).
60. Rajkishore, N. *Supply Chain Management and Logistics in the Global Fashion Sector*. (Routledge, 2020).
 61. Mangiaracina, R. Supply Chain profile and Lee's Model - notes from Logistics Management course.
 62. Sustainability & Consumer Behaviour 2022. *Deloitte United Kingdom*
<https://www2.deloitte.com/uk/en/pages/consumer-business/articles/sustainable-consumer.html>.
 63. Rosen, M. A. & Kishawy, H. A. Sustainable Manufacturing and Design: Concepts, Practices and Needs. *Sustainability* 4, 154–174 (2012).
 64. The Basics of B2B Marketing | Tips From Professional Marketers.
<https://agencypartner.com/the-basics-of-b2b-marketing/>.
 65. Boström, M., Micheletti, M. & Oosterveer, P. *The Oxford Handbook of Political Consumerism*. (Oxford University Press, 2019).
 66. Frattini, F. Venturing for Strategic Innovation - notes from Strategic Innovation course.
 67. What is a Decentralized Application (dApp)? - IoTAgenda. *IoT Agenda*
<https://www.techtarget.com/iotagenda/definition/blockchain-dApp>.
 68. What Is Blockchain Technology? How Does It Work? | Built In.
<https://builtin.com/blockchain>.

List of Figures

- Figure 1: Survey question "how often do you buy new clothes?" 6
- Figure 2: Survey question "Which criteria do you use to choose from which brand to buy clothes?" 6
- Figure 3: Survey question "When you want to dispose some clothing, how do you do it?" 7
- Figure 4: Survey question "How much effort do you dedicate to having a sustainable behaviour in buying and using clothes?" 8
- Figure 5: Survey question "How strong do you think is the environmental impact of users' behaviour for each clothing?" 8
- Figure 6: Survey question "For what reason do you think people don't bring a change in their life to pollute less in the fashion industry?" 9
- Figure 7: PEAS Tech's stakeholder map 11
- Figure 8: WEAR ME App services 14
- Figure 9: WEAR ME App's logo 15
- Figure 10: Life-cycle assessment 15
- Figure 11: Screen about Figma's back-end development 17
- Figure 12: Screen about Figma's flow 18
- Figure 13: Screen about Figma's gestures 18
- Figure 14: WEAR ME App QR-code 19
- Figure 15: APP icon Figure 16: Opening page Figure 17: Register section 20
- Figure 18: Register section, part 2 Figure 19: Log in section 20
- Figure 20: Homepage section Figure 21: NFC tag Figure 22: Rewards' progress & badges .. 21
- Figure 23: Stylish Patches Rewards 22
- Figure 24: Rewards' progress types 22
- Figure 25: WEAR ME App's sections 22
- Figure 26: Wardrobe section 23
- Figure 27: Tapped t-shirts Figure 28: LCA info Figure 29: Disposal options 25
- Figure 31: ECO-usage suggestions 26
- Figure 30: Sustainability usage rating 26
- Figure 32: Rewards section 27
- Figure 33: Available rewards 28
- Figure 34: Badges available 28
- Figure 35: LCA Figure 36: Your contribution Figure 37: Monthly savings 30
- Figure 38: Community challenges Figure 39: Friends Figure 40: Chat 32
- Figure 41: Quiz and News Figure 42: Take the quiz 33
- Figure 43: NFC tap Figure 44: New clothing Figure 45: New clothing's info 34
- Figure 46: Record activity Figure 47: Disposal 35
- Figure 48: Example of user's journey 36
- Figure 49: Fast fashion market value forecast worldwide 40
- Figure 50: Second-hand apparel market value worldwide 40
- Figure 51: Wear Me 30 Times 44
- Figure 52: Good On You 45
- Figure 53: Gucci Tag 46
- Figure 54: Nike NBA Connect Jersey 47
- Figure 55: Certilogo Stone Island 48
- Figure 56: Storey 49
- Figure 57: Case studies analysis map 50
- Figure 58: B2C Users' Interactions in WEAR ME App 53
- Figure 59: PEAS Tech's Organizational Chart 54
- Figure 60: Growth Strategy Features 58

Figure 61: PEAS Tech Growth Strategy 62

Figure 62: The PEAS Tech's patches 63

Figure 64: WEAR ME App's Platform System 64

Figure 65: B2B System Map 67

Figure 66: NFC tag system 68

Figure 67: How Blockchain Works..... 70

Figure 68: Lee's Model 71

Figure 69: Complexity - volumes matrix..... 77

Figure 70: 2023-2026 EBIT..... 89

Figure 71: Number of Stylish Patches sold forecasts 2023-2026 90

Figure 72: Funding strategy along the startup's lifecycle 91

Figure 73: Risk typologies 93

Figure 74: Porter's Five Forces Model..... 96

Figure 75: PEAS Tech Business Model Canvas 98

Figure 76: 4 Layers B2B Funnel Diagram..... 103

Figure 77: B2B Cross-channels interactions map 104

Figure 78: Customer persona 112

Figure 79: Means and laddering path..... 113

Figure 80: Editorial planning 119

Figure 81: Cross-channel interactions..... 120

Figure 82: Customer journey map..... 121

List of Tables

- Table 1: Badges' point system 28
- Table 2: Points' system 29
- Table 3: PEAS Tech's Workforce..... 55
- Table 4: New Product/Service Development Strategy 74
- Table 5: Materials' Production/Procurement Strategy 76
- Table 6: Manufacturing strategy..... 78
- Table 7: B2C market revenues 2023..... 82
- Table 8: B2B market revenues 2023 83
- Table 9: Total production & distribution costs 2023..... 84
- Table 10: investment costs 2023 84
- Table 11: Total costs 2023..... 85
- Table 12: B2C market revenues 2024..... 86
- Table 13: B2B market revenues 2024 86
- Table 14: Total production & distribution costs 2024 87
- Table 15: Fix costs 2024 87
- Table 16: 2025-2026 EBIT 88
- Table 17: The B2B Marketing Funnel 104
- Table 18: Targeted audience B2B..... 105
- Table 19: Marketing campaign costs..... 106
- Table 20: B2B Awareness KPIs..... 107
- Table 21: B2B Interest KPIs..... 107
- Table 22: B2B Consideration KPIs 107
- Table 23: B2B Purchase KPIs 108
- Table 24: Target segment 110
- Table 25: Marketing campaign theme 114
- Table 26: Media selected 116
- Table 27: Content idea..... 118
- Table 28: Targeted audience..... 122
- Table 29: Omnichannel Marketing campaign costs 124
- Table 30: B2C Awareness KPIs 125
- Table 31: B2C Interest & Consideration KPIs 126
- Table 32: B2C Purchase KPIs..... 126
- Table 33: B2C Loyalty KPIs 127
- Table 34: B2C Paid online media channel KPIs..... 128
- Table 35: B2C Purchase channels KPIs 128
- Table 36: B2C Email KPIs 129
- Table 37: B2C Peas APP KPIs..... 129
- Table 38: 2023 Marketing strategy costs 131

Acknowledgments

Con la conclusione di questo progetto di tesi ho il dovere di ringraziare tutte le persone che in questi ultimi anni mi sono state vicine e mi hanno permesso di raggiungere questo importante traguardo. Innanzitutto, ringrazio il Professore Alessandro Brun per avermi dato l'opportunità di lavorare e prendere attivamente parte al progetto PEAS che mi ha permesso di confrontarmi con un caso reale di startup all'interno di un settore di mio interesse. Ringrazio ovviamente la mia collega Alice che, oltre ad avermi dato la possibilità di lavorare assieme a lei a questo stimolante progetto, si è dimostrata un'eccezionale compagna di tesi. Senza il suo supporto, la sua tenacia e il suo talento non sarei mai riuscito a procedere con il mio stage e al contempo completare la stesura di questa tesi.

Un ringraziamento speciale va alla mia ragazza Francesca per essere sempre stata al mio fianco, per aver sempre creduto in me, per avermi fatto ridere e sopportato anche nelle giornate più storte; sei la persona migliore che potessi desiderare.

Ringrazio i miei amici Marco, Alessandro, Tommaso, Simone, Federico, Michela, Alessio, Francesca, Benedetta e Davide con i quali ho condiviso tante esperienze e momenti felici negli ultimi anni. Inoltre, ringrazio Matteo, il mio compagno di corso più presente in tutti questi anni al Politecnico. Assieme abbiamo vissuto tanti momenti universitari indimenticabili, ci siamo dati la forza e il sostegno necessario per andare avanti e non mollare mai.

Per concludere, vorrei ringraziare la mia famiglia. In particolar modo miei genitori, Ornella e Massimo, che da sempre mi hanno sostenuto e che si sono sempre fidati delle mie capacità, è grazie a voi se oggi riesco a completare questo importante percorso. Ringrazio mia sorella Sara che da anni mi sopporta e i miei cugini, in realtà fratelli acquisiti, Riccardo e Clara per i fantastici anni passati assieme. Infine non possono non ringraziare i miei zii Marco ed Elena per il loro sostegno su cui ho sempre potuto contare.

Grazie mille a tutti voi,

Andrea

Acknowledgments

Vorrei iniziare ringraziando il mio relatore, il Prof. Alessandro Brun, per avermi dato l'opportunità di svolgere questo lavoro di tesi che racchiude a pieno gli argomenti di mio maggior interesse in ambito accademico e professionale. Un ringraziamento inoltre va ad Andrea, che mi ha affiancata e sopportata in questi mesi di stesura, dimostrando ancora una volta di essere un collega eccezionale e anche un buon amico.

Ringrazio i miei compagni di corso con i quali ho passato questi cinque anni di università, ed in particolare Riccardo, Leonardo, Lorenzo C., Andrea, Carlo, Lorenzo B., e Davide, i miei "bodyguard". Ringrazio tutti i miei amici, dai più vicini di Varese ai dottori di Latina, fino ad arrivare ai campeggiatori della Baia. Ognuno di voi ha rallegrato le mie giornate dandomi la serenità di cui avevo bisogno per raggiungere questo traguardo. Ma un ringraziamento speciale lo dedico alle mie migliori amiche, Gaia, Elisa, Camilla, e Chiara. Grazie per ogni singolo istante passato insieme, e per tutti quelli che ci saranno ancora. Non potrei immaginare la mia vita senza di loro, sono un barlume di gioia nelle mie giornate più cupe.

Ringrazio il mio fidanzato Francesco, che forse più di tutti ha subito i miei sfoghi, le mie lamentele, e le mie crisi nel corso dell'università, ma era sempre pronto a tendermi una mano e a risollevarmi il morale, credendo in me costantemente. Grazie per avermi sempre dato affetto e supporto in ogni momento, se oggi sono qui il merito è anche suo. Ti amo.

Infine, il ringraziamento più importante va alla mia famiglia. A mamma e papà, che mi sono sempre stati vicini, anche quando passavo le mie giornate chiusa in camera a studiare e a fare meeting. Grazie per aver permesso tutto ciò e aver sempre creduto in me, aiutandomi a superare ogni ostacolo. A mio fratello Matteo, che anche se da lontano però mi ha sempre seguita in questo percorso, ricordandomi di staccare la testa ogni tanto dallo studio e, soprattutto, che sopra il 18 si accetta tutto. Grazie per ogni momento di conforto. A Elisa, mia sorella ed una delle mie migliori amiche. Grazie per esserci sempre stata per me, porgendomi una spalla su cui piangere, una mano per aiutarmi, o un sorriso per rasserenarmi. Mi ha sempre compresa senza che le dicessi una parola, perché dopotutto essere gemelle è un legame unico. Ultimo ma non per importanza, ringrazio Gaspare, il mio adorato bassotto, che mi ha dato conforto e amore incondizionato ogni giorno quando tornavo a casa dall'università dopo una giornata interminabile, e lo trovavo scodinzolante davanti alla porta ad aspettarmi.

Infinitamente Grazie,
Alice